Proposed Intensive livestock agriculture development (Expansion of beef cattle feedlot from 999 head to 3,000 head) on the property "Springfield"

## **Traffic Impact Assessment**

"Springfield" 2513 Getta Getta Road North Star NSW 2408



AGRICULTURAL

ENVIRONMENTAL

PROJECT MANAGEMENT

Doolin Farming Pty Ltd "Glenhoma" 3202 Getta Getta Road NORTH STAR NSW 2408

[February 2025]

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## **Executive summary**

Doolin Farming Pty Ltd own and operate a 10,000 ha mixed farming operation across several properties at North Star including "Glenhoma", "Glenmodel", "Springfield", "Myall Downs" and "Yetman West" some 27 km east of Yetman and 45 km south-southeast of Goondiwindi (QLD) in NSW.

Doolin Farming Pty Ltd primarily engage in dryland and irrigated cropping and beef production. Doolin Farming Pty Ltd produces wheat, barley, oats and chickpeas in winter and cotton and maize in summer under pivot irrigation systems and dryland sorghum cropping. Doolin Farming Pty Ltd also have onsite storage to accommodate almost the entire grain produced and operate a fleet of trucks to transport their grain.

Central to the beef production enterprise is the breeding, growing and lot-feeding of cattle for the domestic market. Currently the beef supply chain includes breeding and growing of beef cattle on land less suitable for dryland and irrigated cropping and grazing of stubble and lot feeding of cattle within a feedlot on the property 'Springfield''.

"Springfield" comprises some 1,713 ha (~4,231 acres) and currently, a dryland and irrigated cropping business is undertaken on a large proportion of the property with extensive cattle breeding and grazing of beef cattle on the remaining land which is unsuitable for cropping and lot feeding of cattle within a beef cattle feedlot in the north-east of the property. In the last few years, beef cattle bred on several adjoining properties have been walked into a feeding program on "Springfield" upon weaning. "Springfield" has built infrastructure such as a dwelling, machinery sheds, silos, cattle yards and feedlot etc to support the feeding program.

There has been a beef cattle feedlot on "Springfield" for over three years after approval was granted for a 999 head feedlot by the Gwydir Shire Council in 2021 (DA31/2020). Under Schedule 3, Part 1 Item 27 of the *Environmental Planning and Assessment Regulation 2021*, as the capacity of the existing development does not exceed 1000 head it is not a designated development and an environmental licence from NSW EPA is not required.

The existing feedlot is known as Springfield Feedlot. Springfield Feedlot is used to finish the Doolin Farming's own cattle for the domestic and export markets.

Springfield Feedlot currently operates for 12 months of the year and employs approximately 2 full time staff. Casual staff and contractors are engaged as required during busy periods such as planting and harvesting of silage and fodder and to supply various associated services such as plant maintenance and veterinary requirements.

Springfield Feedlot includes one controlled drainage area with associated production pens and drainage system which includes catch drains, sedimentation basin and holding pond. Springfield Feedlot also has auxiliary infrastructure to support the use such as cattle handling and feed storage and processing facilities.

Springfield Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS) with audits conducted annually.

Doolin Farming Pty Ltd wish to expand Springfield Feedlot from the current approved capacity of 999 head by gaining development approval for intensive livestock agriculture to operate as a 3,000 head beef cattle feedlot on the site. The proposed development is to be developed in two stages with the first stage having a capacity of 1,251 head. The second stage will provide an additional 750 head, bringing the capacity of Springfield Feedlot to 3,000 head.

The proposed development will include additional production pens and redeveloped cattle handling facility within an expanded controlled drainage area, additional sedimentation basin and holding pond capacity. The proposed development will incorporate best practice design, construction and environmental management.

Existing infrastructure such as the grain storage and processing facilities have sufficient capacity to cater for the demands of the proposed development.

The property "Springfield" is within the Gwydir Shire Council local government area and relevant environmental planning instrument is the *Gwydir Local Environmental Plan 2013* (GLEP).

Doolin Farming Pty Ltd have access to a secure and appropriately licensed water supply provided by groundwater from the NSW Great Artesian Basin Eastern recharge groundwater source for irrigation and stock intensive use on the subject land under access licence 90AL834721.

Beef cattle feedlots which exceed 1,000 head capacity are defined as designated development under Schedule 3 (Part 1 section 21a) of the Environmental Planning and Assessment Regulation 2000 and therefore require a full Environmental Impact Statement (EIS) to accompany the development application.

This Traffic Impact Assessment has been prepared as part of an EIS to support the Development Application to the Gwydir Shire Council for the proposed development and assesses the impact and mitigation treatments (if any) required for the external road network.

The traffic impact assessment determined that no upgrades are recommended within the sealed section of Getta Getta Road, North Star Road, Warialda Road or Bruxner Way as these roads meet the minimum standard and existing road order classification commensurate with existing and proposed traffic volumes. The segments of these roads which shall be impacted by the proposed development are a minimum of 6 m pavement width on a 7 m formation width.

No intersection upgrades to the local road network would be warranted due to the low additional volume of development traffic and intersection geometry is able to accommodate the largest vehicle proposed to access the site.

The following mitigation measures are proposed or maintained:



- Access for light and heavy vehicles be maintained via a new dedicated subject land entrance off Getta Getta Road approximately 200 m east of the existing subject land entrance to provide sufficient sight distances to and from the intersection.
- Advisory signage (Truck crossing or entering) be implemented on each approach to the dedicated entrance off Getta Getta Road in accordance with AS1742.2 to advise motorists of truck turning movements.
- A Traffic Management Plan shall be implemented for the proposed development.

In conclusion, the proposed development will not adversely impact on the operational performance of the surrounding road network and the proposed road access arrangements are considered adequate and suitable for the proposed use.

## 1 Background

### 1.1 Introduction

Doolin Farming Pty Ltd own and operate a 10,000 ha mixed farming operation across several properties at North Star including "Glenhoma", "Glenmodel", "Springfield", "Myall Downs" and "Yetman West" some 27 km east of Yetman and 45 km south-southeast of Goondiwindi (QLD) in NSW.

Doolin Farming Pty Ltd primarily engage in dryland and irrigated cropping and beef production. Doolin Farming Pty Ltd produces wheat, barley, oats and chickpeas in winter and cotton and maize in summer under pivot irrigation systems and dryland sorghum cropping. Doolin Farming Pty Ltd also have onsite storage to accommodate almost the entire grain produced and operate a fleet of trucks to transport their grain.

Central to the beef production enterprise is the breeding, growing and lot-feeding of cattle for the domestic market. Currently the beef supply chain includes breeding and growing of beef cattle on land less suitable for dryland and irrigated cropping and grazing of stubble and lot feeding of cattle within a feedlot on the property 'Springfield''.

"Springfield" comprises some 1,713 ha (~4,231 acres) and currently, a dryland and irrigated cropping business is undertaken on a large proportion of the property with extensive cattle breeding and grazing of beef cattle on the remaining land which is unsuitable for cropping and lot feeding of cattle within a beef cattle feedlot in the north-east of the property. In the last few years, beef cattle bred on several adjoining properties have been walked into a feeding program on "Springfield" upon weaning. "Springfield" has built infrastructure such as a dwelling, machinery sheds, silos, cattle yards and feedlot etc to support the feeding program.

There has been a beef cattle feedlot on "Springfield" for over three years after approval was granted for a 999 head feedlot by the Gwydir Shire Council in 2021 (DA31/2020). Under Schedule 3, Part 1 Item 27 of the *Environmental Planning and Assessment Regulation 2021*, as the capacity of the existing development does not exceed 1000 head it is not a designated development and an environmental licence from NSW EPA is not required.

The existing feedlot is known as Springfield Feedlot. Springfield Feedlot is used to finish the Doolin Farming's own cattle for the domestic export market.

Springfield Feedlot currently operates for 12 months of the year and employs approximately 2 full time staff. Casual staff and contractors are engaged as required during busy periods such as planting and harvesting of silage and fodder and to supply various associated services such as plant maintenance and veterinary requirements.

Springfield Feedlot includes one controlled drainage area with associated production pens and drainage system which includes catch drains, sedimentation basin and holding pond. Springfield Feedlot also has auxiliary infrastructure to support the use such as cattle handling and feed storage and processing facilities.



Springfield Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS) with audits conducted annually.

Doolin Farming Pty Ltd wish to expand Springfield Feedlot from the current approved capacity of 999 head by gaining development approval for intensive livestock agriculture to operate as a 3,500 head beef cattle feedlot on the site. The proposed development is to be developed in two stages with the first stage having a capacity of 1,475 Head. The second stage will provide an additional 1,025 Head, bringing the capacity of Springfield Feedlot to 3,500 Head.

The proposed development will include additional pens within an expanded controlled drainage area, additional sedimentation basin and holding pond capacity. The proposed development will incorporate best practice design, construction and environmental management.

Existing infrastructure such as the grain storage and processing and cattle handling facilities have sufficient capacity to cater for the demands of the proposed development.

The property "Springfield" is within the Gwydir Shire Council local government area and relevant environmental planning instrument is the *Gwydir Local Environmental Plan 2013* (GLEP).

Doolin Farming Pty Ltd have access to a secure and appropriately licensed water supply provided by groundwater from the NSW Great Artesian Basin Eastern recharge groundwater source for irrigation and stock intensive use on the subject land under access licence 90AL834721.

Beef cattle feedlots which exceed 1,000 head capacity are defined as designated development under Schedule 3 (Part 1 section 21a) of the Environmental Planning and Assessment Regulation 2000 and therefore require a full Environmental Impact Statement (EIS) to accompany the development application.

This Traffic Impact Assessment forms part of an EIS prepared to support the Development Application to the Gwydir Shire Council for the proposed development and assesses the impact and mitigation treatments (if any) required for the external road network.

### 1.1.1 Scope

The objective of this report is to identify the traffic and transport impacts associated with the proposed expansion of Springfield Feedlot from 999 Head to 3,200 Head and the proposed on-site and off-site measures proposed to mitigate the impacts of the development on any road or rail related infrastructure. The report will form part of the Environmental Impact Statement (EIS) for the proposed development and provides the Gwydir Shire Council and the TfNSW the opportunity to adequately consider any traffic or transport related impacts.

The assessment is based on the following general scope for matters to consider in a TIA which is defined by the NSW Roads and Maritime Services (RMS) Guide to Traffic Generating Developments (RTA 2002):



- The existing locality and surrounding land uses;
- Review the existing road network to understand the current road connections and conditions.
- Estimation of the traffic generation of the proposed development based on the proposed activities and car parking requirements;
- Estimate the traffic distribution onto the surrounding road network;
- Provide engineering advice on access arrangements into the development site and geometric requirements including upgrade requirements (if any) to adjacent roads and intersections.
- Assessment of the impact of the additional trips generated from the proposed development on the local road network and any traffic management measures; and
- Analysis of the impact of the existing and proposed development on the road network with consideration for a 10 year horizon.

### 1.1.2 References and guidelines

In preparing this report, references are made to the following traffic engineering and council sources:

- Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, (Austroads, 2021);
- Guide to Road Design Part 3: Geometric Design (Austroads, 2021);
- Gwydir Local Environment Plan 2013 (Gwydir Shire Council, 2013);
- Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management, (Austroads, 2020);
- Guide to Traffic Engineering Practice Part 5 Intersections at Grade (Austroads, 2009);
- Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments (Austroads, 2020); and
- Austroads Supplement for Guide to Traffic Management Roads and Maritime Services (Roads and Maritime Services, 2013); and
- Roads and Traffic Authority, 2002, Guide to Traffic Generating Developments, Version 2.2 (RTA, 2002).

This report has been prepared by Rod Davis (FIEAust, CPEng, RPEQ#20256, CPESC).

# 2 Site and locality

### 2.1 Subject land

The proposed development is to be located on two land parcels which form the property known as "Springfield".

"Springfield" is located on Getta Getta Road, North Star approximately 15 km by road east of North Star and some 27 km west-southwest of Yetman in the North Star region of New South Wales.

The subject land has primary frontage to Getta Getta Road (sealed) of approximately 5 km in length. Getta Getta Road intersects with North Star Road some 14 km west and with Warialda Road some 25 km east of the entrance for the proposed development complex respectively.

Getta Getta Road is a sealed road from the bridge crossing over Ottleys Creek to North Star and generally runs in an east-west direction.

Figure 1 is a locality plan highlighting the subject land to roads and the nearby townships of North Star and Yetman.

#### 2.1.1 Real property description

The subject land comprises of two (2) cadastral portions. The description of the subject land is provided in Table 1. The total area of the subject land is about 1,713.2 ha (~4,231 acres). The subject land is in the Gwydir Shire.

Figure 2 is a cadastral plan highlighting the cadastral parcels that comprise the subject land.

	-				
Property name	Lot no.	Plan no.	Easements	Area	Local government area
				На	
"Springfield"	8	DP756018	DP1237694	~883.3	Gwydir Shire
"Springfield"	8	DP756018	DP1237694	~792.7	Gwydir Shire
"Springfield"	1	DP1212915	-	~37.2	Gwydir Shire
Total area				~1,713.2	

#### Table 1 – Subject land – Description

#### 2.1.1.1 Limitations/Interests/Encumbrances

The subject land does contain an easement for overhead power line for 20 m wide (DP1237694) and is subject to reservations and interests in favour of the crown.

#### 2.1.1.2 Road reserve

The subject land does not contain a road reserve under the *Roads Act 1993* as shown in Figure 2.

#### 2.1.1.3 Travelling Stock Reserve

There are no Travelling Stock Reserves (TSR) declared on or adjoining the subject land or along or adjoining Getta Getta Road on parcels of Crown land reserved under the Crown Land Management Act 2016.

#### 2.1.1.4 Tenure

The subject land is owned by Jennifer Susan Doolin (ABN 48 278 018 042) in freehold land tenure.

#### 2.1.1.5 Landuse and zoning

The proposed development site falls within the RU1 Primary Production zone of the *Gwydir Local Environment Plan 2013* (Gwydir Shire Council, 2013). The anticipated traffic growth rate of the surrounding area is considered to be relatively low.

#### 2.1.1.6 Road network

The subject land is accessed directly from Getta Getta Road. The Gwydir Shire Council is the roads authority for Getta Getta Road from the bridge crossing on Ottleys Creek to North Star.

The existing development is accessed via the existing subject land entrance off Getta Getta Road. All light (staff and support services) and heavy vehicles (livestock and commodity delivery) enter the existing development complex site via the Getta Getta Road entrance.







## 3 Proposed development

### 3.1 Overview

Doolin Farming Pty Ltd wish to expand the existing beef cattle feedlot on the subject land from 999 head up to a maximum capacity of 3,000 head. The proposed development will allow flexibility of use with the ability to increase or decrease the number of animals within the development in line with market and economic factors.

The proposed development complex would occupy a footprint of approximately 14.5 ha and include the following components in a functional configuration:

- Water reticulation infrastructure A reliable and uninterrupted supply of clean water of the required volume to sustain operations is provided;
- Pens Fenced areas are constructed for accommodating beef cattle (production pens), cattle arriving to or being dispatched from the proposed development (induction/dispatch pens), and sick beef cattle (hospital pens);
- Internal road An internal road network is constructed to provide al-weather access to the proposed development complex;
- Controlled drainage area Rainfall runoff from areas such as pens that has a high organic matter and therefore a high pollution potential is controlled within a system that collects and conveys this runoff to a sedimentation system and holding pond prior to environmentally sustainable utilisation;
- Drainage system The controlled drainage area contains a system including catch drains, sedimentation system and holding pond for conveying stormwater, allow entrained sediment to 'settle out' and capture and storage of the stormwater from the controlled drainage area until it can be sustainably utilised; and
- Solid waste and effluent management areas Solids wastes such as manure and mortalities shall be temporarily stockpiled and processed within the solid waste stockpile and carcass composting area prior to utilisation on-site. Effluent is stored in the holding pond pending application to the effluent utilisation area.

The proposed development also includes an associated 1,020 ha of cropping land for effluent and solid waste utilisation. Solid wastes generated are applied to an on-site utilisation area. Any solid wastes not utilised on-site are removed off-site to adjoining properties owned by the proponent. When available, effluent is applied to land via irrigation within a dedicated effluent utilisation area.



### 3.2 Access

Access to the homestead and existing development complex on the subject land is directly off Getta Getta Road a local controlled road some 13.5 km east of the intersection with North Star Road as shown in Figure 3.

Access to the proposed development shall be from a new dedicated subject land entrance off Getta Getta Road some 200 m east of the existing subject land entrance as shown in Figure 3. A purpose built internal road shall be constructed to connect the new development entrance to the infrastructure of the existing and proposed development.

The existing subject land entrance shall be maintained for light and heavy vehicles servicing the subject land homestead and agricultural commodities produced on the subject land and not destined for the proposed development.

All livestock and commodity delivery vehicles associated with the proposed development shall be required to enter the site via the proposed development entrance. The proposed development entrance shall be designed to provide an efficient, functional and safe access to the proposed development site for the type of traffic generated by the proposed development. The proposed entrance shall accommodate vehicle up to a Type 1 road train configuration.

The entrance shall be constructed and maintained to an industrial standard in accordance with AS/NZS 2890.1: 2004, Parking facilities, Part 1: Off-street car parking or AS:2890.2—2018, Parking facilities or other relevant standards prescribed by Gwydir Shire Council.

## 3.3 Parking

A vehicle parking area is located along the northern and western sides of the development complex site adjacent to the grain storage and processing facility, with at least 5 informal parking spaces provided for operational and maintenance staff as shown on Figure 3.

## 3.4 Staging

The proposed development involves a staged construction in up to two (2) stages depending on operational requirements, market demand for beef and other considerations. The timing and duration of each stage maybe contiguous or discrete periods depending on the factors mentioned previously.

Indicative staging to reach full capacity of the proposed development (3,000 head) are shown in Table 2.

Stage	Total capacity	Description	Timeframe
1	2,250 Head	Controlled Drainage Area 1. Production pen area for 1,251 head with associated drainage system, feed bunks, water troughs, fencing, feed roads, shade structures, internal connection roads, solid waste and carcass composting area, expanded grain storage and processing facility, expended sedimentation basin and holding pond for CDA 1 when fully developed.	After development approvals
2	3,000 Head	Controlled Drainage Area 1. Production pen area for 750 head with associated drainage system, feed bunks, water troughs, fencing, feed roads, shade structures, internal connection roads.	5-7 years

Table 2 – Proposec	I development –	Staging
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### 3.5 Construction

Infrastructure shall be developed as part of the proposed development and therefore earthworks, pen infrastructure and internal roads shall be constructed.

All heavy vehicles associated with the construction of the proposed development travelling from the west would be routed along the Bruxner Way from Boggabilla to North Star Road to Getta Getta Road. All heavy vehicles associated with the construction of the proposed development travelling from the south would be routed from Warialda along the Warialda Road to North Star Road to Getta Getta Road. Typically, a low-loader type vehicle would deliver the construction equipment to the site as required and backload with equipment that has completed operations and is to be demobilised from the site. Delivery of items of construction equipment would be staggered throughout the construction period in line with sequencing of activities.

## 3.6 Decommissioning

There is no proposed operational lifespan of the existing development. The existing development shall continue to operate based on demand for lot-fed beef and economic viability. Consequently, the existing development complex site and all above ground infrastructure is not proposed to be decommissioned and shall be utilised in the proposed development.





## 4 Traffic Impact Assessment

### 4.1 Existing road network

This section describes the existing road network including traffic conditions, volumes, intersection performance, road accesses, relevant intersection type and operation, as well as public and active transport provisions.

The locality of the proposed development is shown in Figure 1 and Figure 2.

Access to the proposed development by vehicles travelling from/to the north and west such as Goondiwindi (QLD) is via the Bruxner Way to the North Star Road (Warialda to Goondiwindi MR7705) to North Star to Getta Getta Road.

Access to the proposed development by vehicles travelling from the south such as Inverell, Tamworth and Gunnedah regions is via the Allan Cunningham Road (Tamworth-Yetman MR63) to the Gwydir Highway (Gwydir MR12), the Gwydir Highway to Warialda, Warialda Road (Tamworth-Yetman MR63) to North Star Road (Warialda to Goondiwindi MR7705) to North Star to Getta Getta Road.

Access to the proposed development by vehicles travelling to/from the east such as Texas (QLD), Tenterfield and Yetman. Vehicles travelling from/to these areas shall use the Bruxner Way to Warialda Road (Tamworth-Yetman MR63) to Getta Getta Road.

Local roads such as Milkomi Road, Yetman West Road, Blue Nobby Road will not be used by light or heavy vehicles generated by the proposed development.

The existing road network surrounding the subject land is shown in Figure 4 and includes the roads outlined in the following sections. The haulage routes are shown on Figure 4.





### 4.1.1 Local roads

All livestock and commodity delivery vehicles shall enter the proposed development complex site via the proposed new dedicated entrance off Getta Getta Road some 200 m east of the existing subject land entrance. All heavy vehicles other than supplements originating from Warwick in Qld shall enter the site from the west. Heavy vehicles hauling supplements shall enter the proposed development complex site from the east.

Local roads such as Croppa Creek Road, I B Bore Road, Yetman West Road, Milkoni Road, Goat Road, Peates Road, Hibernia Road, Myall Downs Road and Blue Nobby Road will not be used by development traffic in particular heavy vehicles. On this basis, the existing local road network that may be impacted by the proposed development is limited to Getta Getta Road.

#### 4.1.1.1 Getta Getta Road

Getta Getta Road is a local road. The Gwydir Shire Council is the roads authority for Getta Getta Road in accordance with Section 7 of the Roads Act 1993.

Getta Road is two-lane, two-way undivided local road about 38.75 km long. Getta Getta Road provides connection from Warialda Road (CH0 km) to North Star Road at North Star (CH38.75 km). Getta Getta Road is unsealed from Warialda Road (CH 0 km) to the eastern abutment of the bridge crossing over Ottleys Creek (CH15 km) and is bitumen sealed from the western abutment to North Star Road (CH38.75 km). Getta Getta Road terminates at the intersection with North Star Road and runs generally in an east west direction from Warialda Road to North Star Road. Getta Road has no posted speed limit.

Getta Getta Road has recently been sealed between the western abutment of the bridge crossing over Ottleys Creek (CH15 km) to North Star Road (CH38.75 km). Getta Getta Road is generally 6-6.5 m seal on an 7-8 m formation as shown in Photograph 1, Photograph 2 and Photograph 5. Getta Getta Road has no line markings (centreline or edge lines).

The pavement is in very good condition along the entire length reviewed as shown in Photograph 1 to Photograph 5 inclusive.

Development traffic comprising predominantly heavy vehicles is expected to travel to/from the proposed development along the segment of Getta Getta Road from North Star Road to the development complex entrance (CH25.13 km). The principal haulage route is along Getta Getta Road.

Getta Getta Road is an approved for up to Type 1 road train (Road train 36.5 m network) with conditions from the Ottleys Creek bridge (GSC boundary) to the intersection with North Star Road. Getta Getta Road from the intersection of Warialda Road to the North Star Road intersection is approved for up to B-double (25/26m).



Austroads (Austroads, 2021a) nominates one 3.7 m traffic lane on 8.7 m carriageway for roads servicing 1-150vpd with more than 15% heavy vehicles. No upgrades are recommended under existing or proposed traffic conditions within the sealed section based on the pavement width of 6 m seal. The formation width does not meet Austroads requirements for shoulder and carriageway width.



Photograph 1 – Getta Getta Road – Formation CH15 km (Ottleys Creek bridge crossing)





Photograph 2 – Getta Getta Road – Formation CH24 km ("Springfield")



Photograph 3 – Getta Getta Road – Formation CH26.5 km ("Springfield")





Photograph 4 – Getta Getta Road – Formation CH26.5 km



Photograph 5 – Getta Getta Road – Formation CH38.75 km (Getta Getta Road / North Star Road intersection)



### 4.1.2 Regional roads

#### 4.1.2.1 North Star Road

North Star Road is a classified (Regional) road (Road Number 0007705). The Gwydir Shire Council is the roads authority for North Star Road in accordance with Section 7 of the Roads Act 1993.

North Star Road is two-lane, two-way undivided local road about 85 km long and is bitumen sealed for its entire the length. It provides connection from the Bruxner Way (CH 0 km) to Warialda Road (CH 85 km) and passes through the village of North Star (CH 21.9 km). The intersection with Warialda Road is located some 19.5 km north of Warialda. North Star Road has no posted speed limit.

North Star is fully sealed between the Bruxner Way and Warialda Road. North Star Road is generally 6.5-7.0 m seal on a 9-9.5 m formation between the Bruxner Way and North Star as shown in Photograph 6 and Photograph 7.

North Star Road is generally 6.5-7.5 m seal on a 9-10 m formation between Warialda Road and North Star as shown in Photograph 8, Photograph 9 and Photograph 10.

Other than between CH2.6 km and CH3.5 km; CH38.1 km and CH43 km and CH 79.3 km and CH85.0 km)) North Star Road has no centreline line markings and has no edge lines for its entire length.

The pavement is in very good condition along the entire length reviewed as shown in Photograph 6, Photograph 7, Photograph 9, Photograph 10 and Photograph 11.

North Star Road is an approved 4.6m high vehicle route and approved Type 1 road train route (Road train 36.5 m network) and approved for modular B-triples with and without conditions from the Bruxner Way to Warialda Road.

Austroads (Austroads, 2021a) nominates a minimum 7.0 m seal on 9.2 m formation for roads servicing 150-500vpd with more than 15% heavy vehicles. No upgrades are recommended under existing or proposed traffic conditions within the sealed section which is a minimum of 6.5 m seal on a 9 m formation.





Photograph 6 – Bruxner Way / North Star Road intersection



Photograph 7 – North Star Road formation (CH13 km)





Photograph 8 – North Star Road formation (CH24 km)



Photograph 9 – North Star Road formation (CH47 km)





Photograph 10 – North Star Road formation (CH75 km)



Photograph 11 – North Star Road / Warialda Road intersection



#### 4.1.2.2 Bruxner Way

The western alignment of the Bruxner Highway from Tenterfield to Boggabilla was named the Bruxner Way (Road Number 0000462) in 2011. The Bruxner Way is a classified (Regional) road. The Tenterfield Shire Council, Inverell Shire Council, Gwydir Shire Council and Moree Plains Shire Council are the roads authority for the Bruxner Way between Tenterfield and Boggabilla in accordance with Section 7 of the Roads Act 1993.

The Bruxner Way and its eastern alignment the Bruxner Highway (Route B60) is a 420 km state highway in northern New South Wales. The route forms a vital east–west link across the Northern Tablelands in northern New South Wales, close to the border with Queensland, to the Northern Rivers coast.

The Bruxner Way traverses the Northern Tablelands region and commences at the intersection with Newell Highway in Boggabilla and heads in a south-easterly direction, tracking close to the southern bank of the Macintyre River until it reaches Yetman, then heads east where it reaches the Texas Road intersection, then continues in an easterly direction, tracking close to the southern bank of the Dumaresq River and Tenterfield Creek until it eventually terminates at an intersection with New England Highway some 4 km north of Tenterfield.

The Bruxner Way is two-lane, two-way undivided local road about 230 km long and is bitumen sealed along the length reviewed from the Texas Road intersection to Boggabilla. The intersection with Warialda Road is at CH40.5 km and North Star Road is at CH83.5 km with the intersection with Texas Road CH 0km. The Bruxner Way has a 100 km/hr posted speed limit.

The Bruxner Way has the following characteristics:

- two-lane, two-way undivided road with a posted speed limit of 100 km/h (North Star Road to Yetman);
- 7m sealed pavement generally approximately 10 m formation, with 3.5 m wide lanes and 1.0-1.5 m wide unsealed shoulders, centre line marking and intermittent edge line marking;
- The road is currently in good condition, with no significant signs of pavement breakup within the vicinity of the Texas Road, Warialda Road or North Star Road intersections due to heavy vehicle turning movements.

The Bruxner Way is an approved 4.6m high vehicle route and approved with conditions for up to Type 1 road train route (Road train 36.5 m network) and approved for B-triple and modular B-triple from Ottleys Creek west to the intersection with North Star Road.

Vehicle count data for the Bruxner Way was obtained from TfNSW at traffic count site Id 91506: Boggabilla, 370m South of Merriwa Street. These data were collected in April and May 2006 and 2009 respectively. The AADT recorded was 668 vpd with 99 vpd (~15%) being heavy vehicles (Class 3 to 10) during this period. The tube count data for the Gwydir Highway is provided in Appendix A.





Photograph 12 – Bruxner Way / North Star Road intersection



Photograph 13 – Bruxner Way





Photograph 14 – Bruxner Way / Warialda Road intersection

#### 4.1.2.3 Warialda Road

Warialda Road is a classified (Regional) road ((Road Number 0000063). The Gwydir Shire Council is the roads authority for Warialda Road in accordance with Section 7 of the Roads Act 1993.

Warialda Road is two-lane, two-way undivided local road about 82 km long and is bitumen sealed for its entire the length. It provides connection from the Bruxner Way (CH 0 km) to Warialda (CH 82 km) and passes through the village of Coolatai (CH41.7 km). The intersection with North Star Road is located some 19.5 km north of Warialda. The intersection with the Bruxner Way is located some 1.2 km west of Yetman. Warialda Road has a 100 km/hr posted speed limit.

The segment of Warialda Road to be used by the development generated light vehicles would be from the intersection of the Bruxner Way to North Star Road (CH0.75 km). The segment of Warialda Road to be used by the development generated heavy vehicles would from the intersection of North Star Road to the Gwydir Highway.

Warialda Road is generally 8 m seal on a 10 m formation along the segment reviewed as shown in Photograph 16 to Photograph 21 inclusive.



Warialda Road has centreline line markings between the Gwydir Highway and Gournama Road, the Bruxner Highway to Getta Getta Road and at the intersection with North Star Road. Warialda Road has edge lines between the Gwydir Highway and Gragin Road and at the North Star intersection.

Warialda Road is an approved 4.6m high vehicle route and approved Type 1 road train route (Road train 36.5 m network) from Warialda to North Star Road. Warialda Road is an approved 4.6m high vehicle route and approved B-double (25/26m) route from the Bruxner Way to Getta Getta Road intersection only.

The pavement is in very good condition along the entire length reviewed as shown in Photograph 11 to Photograph 21 inclusive.

Heavy Vehicle heading to/from Inverell or Tamworth would take the heavy vehicle bypass (CH79.5 km) to the northeast of Warialda to bypass the township and connect with the Gwydir Highway.

Vehicle count data for the Warialda Road was obtained from TfNSW at traffic count site Id 91591: Warialda, 630m North of J A Mcgregor Drive. These data were collected in April and May 2007 and 2008 respectively. The AADT recorded was 538 vpd with 139 vpd (~26%) being heavy vehicles (Class 3 to 10) during this period. The tube count data for the Gwydir Highway is provided in Appendix A.



Photograph 15 – Warialda Road / Bruxner Way intersection




Photograph 16 – Warialda Road / North Star Road intersection (CH0.75 km)



Photograph 17 – Warialda Road / Getta Getta Road intersection (CH0.75 km)





Photograph 18 – Warialda Road formation (CH72 km)



Photograph 19 – Warialda Road / Heavy vehicle bypass intersection (CH79 km)





Photograph 20 – Gwydir Highway / Heavy vehicle bypass intersection (CH 85km)

#### 4.1.3 State Road

#### 4.1.3.1 Gwydir Highway

The Gwydir Highway (MR12) is a classified (State) road. The TfNSW is the roads authority for the Gwydir Highway in accordance with Section 7 of the Roads Act 1993.

The Gwydir Highway designated Route B76 is a 568 km state highway in northern New South Wales and was named after the Gwydir River. The Gwydir Highway provides a vital link between the east coast of New South Wales and the New England tablelands and western plains. Gwydir Highway traverses the New England region from the inland plains to the coastal region, linking Walgett, Collarenebri, Moree, Warialda, Inverell, Glen Innes and Grafton. The western termination of the highway is at the junction with Castlereagh Highway, 14 km north of Walgett.

The Gwydir Highway has the following characteristics:

- two-lane, two-way undivided road with a posted speed limit of 100 km/h (Warialda to Inverell);
- sealed, generally approximately 9 m wide, with 3.5 m wide lanes and 0.7-1.0 m wide sealed shoulders, centre line marking and edge line marking;



• The road is currently in good condition, with no significant signs of pavement breakup within the vicinity of the Warialda Heavy Vehicle Bypass to Inverell.

The Gwydir Highway is an approved 4.6m high vehicle route and approved with conditions for up to Type 1 road train route (Road train 36.5 m network) and approved with conditions for B-triple and modular B-triple from Moree to Inverell.



Photograph 21 – Gwydir Highway / Warialda heavy vehicle bypass intersection (Aerial)

Vehicle count data for the Gwydir Highway was obtained from TfNSW at traffic count site Site 14: Warialda, 1.9km West of Cranky Rock Road. These data were collected in March 2020. The AADT recorded was 942 vpd with 173 vpd (~18%) being heavy vehicles (Class 3 to 10) during this period. The tube count data for the Gwydir Highway is provided in Appendix A.





Photograph 22 – Gwydir Highway formation (Warialda)

## 4.1.4 Crash History

4.1.4.1 Crash history

A review of the crash data for the past five (5) years for the road network around the proposed development site has been undertaken and is summarised in Table 3. Table 3 shows there has been 4 reported road traffic crashes on the Bruxner Way along the segment reviewed, 2 reported road traffic crashes on the North Star Road and 4 reported road traffic crashes on the Warialda Road along the segment reviewed in the 5 year reporting period up to 2022.

There have been 2 reported traffic crashes at T-junctions being the Bruxner Way / Peates Road intersection and Warialda Road / Warialda Heavy vehicle bypass intersection.



Shire	Location	Year (Crash ID)	RUM – code and (description)	Casualty
Gwydir	Bruxner Way*	2018 (1161086)	20 (Head on)	Non-casualty (towaway)
Gwydir	Bruxner Way*	2018 (1182132)	53 (overtake turning) T-junction	Minor/other injury
Gwydir	Bruxner Way*	2018 (1168386)	67 (Struck animal)	Non-casualty (towaway)
Gwydir	North Star Road**	2019 (1215587)	86 (Off left/left bend)	Moderate injury
Gwydir	North Star Road **	2022 (1257591)	87 (Off left/left bend)	Fatal
Gwydir	Warialda Road***	2020 (1287591)	86 (Off left/left bend)	Moderate injury
Gwydir	Warialda Road***	2020 (1232735)	87 (Off left/left bend)	Moderate injury
Gwydir	Warialda Road***	2022 (1212052)	74 (On road/Out of control)	Serious injury
Gwydir	Warialda Road***	2022 (1312052)	74 (On road/Out of control) T-junction	Serious injury
Inverell	Bruxner Way****	2022 (1298689)	67 (Struck animal)	Minor/Other injury

#### Table 3 – Road Network – Crash history (2018-2022)

\*Segment of Bruxner Way between North Star Road/Bruxner Highway intersection and Scrubby Creek.

\*\*Segment of North Star Road between Yallaroi Creek and North Star Road/Warialda Road intersection.

\*\*\* Segment of Warialda Road between Warialda and North Star Road / Warialda Road intersection.

\*\*\*\* Segment of Bruxner Way between Yetman and Trigamon Road.



## 4.1.5 Key intersections

There are several intersections within the local, regional and state road network. These include T-intersections from regional roads onto Getta Getta Road as discussed in previous sections and intersections with regional roads further afield such as the North Star Road / Bruxner Way, Warialda Road / Bruxner Highway, Bruxner Highway / Texas Road, North Star Road / Warialda Road, Warialda Road / Gwydir Highway and Allan Cunningham Road / Gwydir Highway. From a traffic route perspective the key intersections have been determined as the North Star Road / Getta Getta Road; North Star Road / Bruxner Way; North Star Road / Warialda Road; Getta Getta Road; North Star Road / Bruxner Way; Intersections have been assessed in section 4.4.3.

#### 4.1.6 Public transport

The proposed development is not expected to have any significant impact on public transport infrastructure. There are no public passenger bus services along the Bruxner Way, Warialda Road and North Star Road along the segment reviewed. There is a passenger bus service along the Gwydir Highway.

Warialda Road and North Star Road are designated school bus routes.

# 4.2 Existing rail network

The Camurra Boggabilla Railway is a disused railway line that branches from the Werris Creek Mungindi line at Camurra northeast of Moree and runs for some 120 km to the township of Boggabilla.

The Moree to North Star section of the railway line is to be upgraded as part of the Inland rail project. The railway line crosses the I B Bore Road at North Star. The public crossing has warning signage, flashing lights and boom gates. The proposed development shall not add traffic to the I B Bore Road.

The Camurra Boggabilla Railway runs generally in an east-northeasterly then northnortheasterly direction then north-northwesterly direction. For part of its length it runs parallel with the North Star Road north of North Star.

There are two former public low level crossings on North Star Road over the disused Camurra Boggabilla Railway as shown in Photograph 24 and Photograph 23. Both of these former crossings have had all traffic control signage removed.

The former public level crossings are used by light vehicles and heavy vehicles in rigid body, semi-trailer, B-double and Type 1 road train configuration using the North Star Road.





Photograph 23 – North Star Road – Former public level crossing (CH0.10 km)(Looking east)



Photograph 24 – North Star Road – Former public level crossing (CH13.5 km) (Looking north)





Photograph 25 – I B Bore Road – Public level crossing North star (Looking west)

#### 4.2.1 Short stacking

As the proposed development shall not add traffic to the I B bore road and the Camura Boggabilla railway north of North star is currently disused no further assessment of the level crossings is deemed warranted.



# 4.3 Traffic generation and distribution

To establish the impact of the development on the adjacent road network and assess the need for improvements to accommodate traffic generated by the proposed development, traffic generation and trip distribution have been determined.

## 4.3.1 Generation

The subject land is currently used for lot feeding of cattle and dryland and irrigated cropping. The existing traffic generation for the subject land site comprises the following:

- Several residential dwellings;
- Beef cattle feedlot (999 head); and
- Cropping operations irrigated and dryland winter cropping (grain / hay /silage) and cotton production.

The type and configuration of vehicles currently utilising the existing development comprise light and heavy vehicles as outlined in Table 4. Getta Getta Road, North Star Road and Warialda Road are an approved Type 1 Road Train route and heavy vehicles in this configuration regularly access the existing development. Heavy vehicles in B-double configuration also regularly access the existing development.

Table 4 – Existing development –	Vehicle configuration
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Light vehicles	The light vehicle movements are comprised of employees, support services and other visitors to the existing development. There are 2 dwellings on the subject land.
Light vehicles	Support services: These include livestock buyers, veterinarians,
	nutritionists etc. These are estimated to be 2 light vehicles per day.
Heavy vehicles	The heavy vehicle movements are comprised of cattle movements, as well as movements for grain, protein, roughage, liquids and supplements. Solid waste in the form of manure stays on-site and is applied to cropping land on the subject land. The traffic generation was based on B-doubles.

The traffic generation for the existing development comprises light and heavy vehicles as outlined in Table 5.

Stage				Existing	Existing	Existing
<b>Development capacity</b>		Head		999	999	999
Activity	Vehicle Type & (Configuration)	GVM	Capacity	Movements	Movements	Movements
		t		per day	per week	per year
Incoming cattle	B-double (3 deck)	62.5	90 head	<0.1	~0.6	~29
Incoming cattle	Type 1 road train (4 deck)	81	120 head	-	-	-
Outgoing cattle	B-double (3 deck)	62.5	60 head	~0.2	~1.8	~77
Outgoing cattle	Type 1 road train (4 deck)	81	80 head	-	-	-
Grain^	Type 1 road train	81	48 t	<0.1	~0.4	~19
Protein	Type 1 road train	81	48 t	< 0.1	~0.4	~23
Roughages*	Semi-trailer	42.5	24 t	-	-	-
Liquids (Oil/Molasses)	B-double	62.5	36 t	-	-	-
Supplements (Dry)	B-double	62.5	36 t	< 0.1	~0.3	~14
Outgoing solid waste**	Semi-trailer	42.5	24 t	~0	~0	~0
Employees	Light vehicles	<4.5	-	~0	~0	~0
Support services	Light vehicles	<4.5	-	~0.3	~2	~104
Total	Total heavy vehicles		-	~0.4	~2.9	~151
Total	Total light and heavy vehicles		-	~0.7	~4.9	~255

## Table 5 – Existing development – Estimated traffic generation (999 head)

\* 100% of roughages (silage/hay/straw) are produced on subject land and adjoining land and does not use local road network.

\*\* 100% of the solid waste is utilised on the subject land.

The type and configuration of vehicles accessing the proposed development shall be identical to the type and configuration accessing the existing development and comprise light and heavy vehicles as outlined in Table 6. Heavy vehicles in Type 1 road train and B-double configuration shall access the proposed development.

### Table 6 – Proposed development – Vehicle configuration

Light vehicles	The light vehicle movements are comprised of employees, support services and other visitors to the proposed development. There are two dwellings on the subject land. It is estimated that some 4 full time equivalent employees will be required when the development is fully developed to 3,000 head. About 50% of the staff shall not reside on-site. There will be staff on-site 7 days a week, with less staff on the weekends. Typically hours of work vary, with staff working between 6:30 or 7 am and 3:30 or 4:30 pm.
Light vehicles	Support services: These include livestock buyers, veterinarians, nutritionists etc. These are estimated to be 3 light vehicles per week on average.
Heavy vehicles	The heavy vehicle movements are comprised of cattle movements, as well as movements for grain, protein, roughage, liquids and supplements. Solid waste in the form of manure will stay on-site. The heavy vehicle traffic generation was based on vehicles in Type 1 road trains and B-double configuration.

The estimated staffing levels for the proposed development are provided in Table 7. Not all staff work every day of the year, thus the yearly volume for staff living off-site is less than 365 multiplied by two movements per staff per day.

Stage	Development capacity	No of staff during weekdays	No of staff living on-site	ig No of staff on weekend	
	Head	FTE	FTE	FTE	
Existing	999	2	2	1	
1	2,250	3	2	2	
2	3,000	4	2	2	

Fable 7 – Propose	d development –	Estimated	staffing levels
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The heavy vehicle traffic generation is summarised in Table 11 for the proposed development when fully developed to 3,000 head.

The table includes all inbound and outbound loaded and unloaded vehicles. A vehicle entering and exiting the development site is two movements. The heavy vehicle movements have been modelled on Type 1 road train and B-double vehicles. Due to its rural location, the use of semi-trailers as-of-right access will not be practical or an efficient method for heavy goods transport. Further, the principal haulage route is approved for Type 1 road train vehicles.

The proposed development shall operate 12 hours per day between 6.00 am and 6.00 pm, 7 days per week including public holidays for general activities such as cattle feeding, waste

management and cropping operations. Transport activities such as feed commodity delivery would typically occur between 7:00 am and 4:30 pm on a weekday. Incoming livestock transport would typically occur between 7:00 am and 4:30 pm on a weekday. Outgoing livestock are typically transported on Sunday to Thursday between 7:00 am and 3:00 pm. Operating hours will be applied with any noise limitations and requirements taken into consideration. Staff shall be on-site 24 hours a day, 7 days a week.

Periodically, heavy vehicle movements do occur outside of normal operating hours (e.g. in summer), as it is desirable to transport cattle either at night or in the early hours of the morning for animal welfare reasons.

The peak vehicle movements were based on 2 times average weekly movements spread across five days. The volumes are triple the average to represent a reasonable amount of peaking throughout the year.

The principal haulage route is currently approved as a designated road train route and Type 1 road trains and B-doubles regularly access the existing development. Consequently, separate approval through the National Heavy Vehicle Regulator (NHVR) is not required. Type 1 road trains are approved for use on all roads on the haulage routes to/from the proposed development other than Getta Getta Road east of Ottley's Creek bridge.

As shown in Table 8, the AADT for the proposed development is estimated to be in the order of 5.2 vpd with 1.5 vpd heavy vehicles when fully developed.

Stage	Development AADT		ADT	T Peak daily			Peak hourly		
	SCUs	Total	Heavy vehicles	Total	Heavy vehicles	Total	Heavy vehicles		
	Head	vpd	vpd	vpd	vpd	vph	vph		
Existing	999	~0.7	~0.4	~0.27	~0.15	~0.05	~0.03		
1	2,250	~3.5	~1.3	~1.4	~0.5	~0.3	~0.1		
2	3,000	~5.2	~1.5	~2.1	~0.6	~0.4	~0.1		

#### Table 8 – Proposed development – Estimated AADT\*

\*Note these data include the existing development traffic

As shown in Table 9, the additional peak daily and peak hourly movements for the proposed development when compared with the existing development is estimated to be up to 4.6 vpd with 1.2 vpd heavy vehicles when fully developed.



Stage	Development capacity	Development AADT		Peak	daily	Peak hourly	
	SCUs	Total	Heavy vehicles	Total	Heavy vehicles	Total	Heavy vehicles
	Head	vpd	vpd	vpd	vpd	vph	vph
Existing	999	-	-	-	-	-	-
1	2,250	2.9	0.9	1.2	0.4	0.2	0.1
2	3,000	4.6	1.2	1.8	0.5	0.4	0.1

### Table 9 – Proposed development – Additional estimated AADT

Stage				1	1	1
<b>Development capacity</b>		Head		2,250	2,250	2,250
Activity	Vehicle Type &	GVM	Capacity	Movements	Movements	Movements
	(Distribution)	t		per day	per week	per year
Incoming cattle	B-double (3 deck)	62.5	84 head	~0.1	~0.7	~37
Incoming cattle	Type 1 road train (4 deck)	81	112 head	0.0	0.0	0
Outgoing cattle	B-double (3 deck)	62.5	54 head	~0.3	~1.8	~96
Outgoing cattle	Type 1 road train (4 deck)	81	72 head	0.0	0.0	0
Grain^	Type 1 road train	81	55 t	~0.4	~2.9	~149
Protein	Type 1 road train	81	55 t	~0.1	~0.5	~26
Roughages*	Type 1 road train	81	49 t	0.0	0.0	0
Liquids (Oil/Molasses)	B-double	62.5	39.5 t	0.0	0.0	0
Supplements (Liquid)	B-double	62.5	39.5 t	0.0	~0.3	~16
Outgoing solid waste**	Semi-trailer	81	55 t	0.0	0.0	0
Employees	Light vehicles	81	45 t	~1.4	~10.0	~520
Support services	Light vehicles	<4.5	-	~0.6	~4.0	~208
Total	Heavy vehicles	<4.5	-	~0.9	~6.2	~324
Total	Light and heavy vehicles	-	-	~2.9	~20.2	~1,052

Table 10 – Proposed development – Estimated additional traffic generation (2,250 head)

Stage				2	2	2
<b>Development capacity</b>		Head		3,000	3,000	3,000
Activity	Vehicle Type &	GVM	Capacity	Movements	Movements	Movements
	(Distribution)	t		per day	per week	per year
Incoming cattle	B-double (3 deck)	62.5	84 head	~0.2	~1.1	~59
Incoming cattle	Type 1 road train (4 deck)	81	112 head	0.0	0.0	0
Outgoing cattle	B-double (3 deck)	62.5	54 head	~0.4	~3.0	~154
Outgoing cattle	Type 1 road train (4 deck)	81	72 head	0.00	0.0	0
Grain^	Type 1 road train	81	55 t	~0.4	~3.1	~164
Protein	Type 1 road train	81	55 t	~0.1	~0.5	~28
Roughages*	Type 1 road train	81	49 t	0.0	0.0	0
Liquids (Oil/Molasses)	B-double	62.5	39.5 t	0.0	0.0	0
Supplements (Liquid)	B-double	62.5	39.5 t	0.0	~0.3	~18
Supplements (Liquid)	Type 1 road train	81	55 t	0.0	0.0	0
Outgoing solid waste**	Semi-trailer	81	45 t	0.0	0.0	0
Employees	Light vehicles	<4.5	-	~2.8	~20.0	~1,040
Support services	Light vehicles	<4.5	-	~0.6	~4.0	~208
Total	Heavy vehicles	-	-	~1.2	8.1	~422
Total	Light and heavy vehicles	-	-	~4.6	32.1	~1,670

^ 50% of the grain produced on the subject land and vehicles do not use state, regional or local controlled road network.

\*100% of roughages (silage/hay/straw) produced on subject land and vehicles do not use state, regional or local controlled road network.

\*\* Solid waste vehicles use Getta Getta Road only as solid waste is utilised on adjoining land owned by the applicant.



## 4.3.2 Traffic growth rates

Traffic growth applied to the background traffic volumes represents the increase in traffic associated with the surrounding area.

No growth factor has been adopted as the actual growth between the TfNSW Traffic Volume viewer counts in 2011 (1,275vpd) and TfNSW advised classified counts in 2020 for the Gwydir Highway (704vpd) was negative.

#### 4.3.3 Haulage routes

The proposed development shall have three heavy vehicle haulage routes to/from the proposed development site. The principal haulage route is route A.

Haulage Route A will be used by heavy vehicles travelling from/to the north such as southern QLD / Northwestern NSW. These vehicles shall travel via the Newell Highway to the Bruxner Way to North Star Road to Getta Getta Road with vehicles entering the development site using the proposed entrance onto Getta Getta Road. Route A is used by light vehicles, and heavy vehicles in semi-trailer, B-double and Type 1 road train configuration primarily transporting livestock and commodities such as protein (whole cottonseed) to the proposed development.

Haulage Route B will be used by heavy vehicles travelling to/from the proposed development site from the east such as Texas (QLD) and Tenterfield (NSW). Vehicles travelling from/to these areas shall use the Bruxner Way to Warialda Road to Getta Getta Road using the proposed entrance onto Getta Getta Road. Route B is used by light vehicles, and heavy vehicles in semi-trailer, and B-double configuration primarily transporting livestock and commodities such as supplements to the proposed development.

Haulage Route C from the southern, central or New England region of NSW via the Allan Cunningham Road, Gwydir Highway to Warialda Road to North Star Road to Getta Getta Road to the proposed entrance off Getta Getta Road. Route B is used by light vehicles, and heavy vehicles in semi-trailer, B-double and Type 1 road train configuration primarily transporting livestock and commodities such as grain to the proposed development and transporting livestock out to slaughter at Inverell.

Local roads such as Milkomi Road, Yetman West Road, Blue Nobby Road will not be used by heavy vehicles generated by the proposed development.

A heavy vehicle code of conduct shall be implemented to ensure heavy vehicles utilise either Haulage Route A, Haulage Route B or C.



## 4.3.4 Distribution

Figure 5 shows the local, regional and state controlled road network potentially impacted by the traffic generated by the proposed development.

Local roads being Getta Getta Road (Segment A) will be regularly used by heavy vehicles to gain access to the proposed development site. No other local controlled roads will be regularly used by vehicles generated by the proposed development.

The employees will come mainly from local farms in the area or the township of North Star or reside on adjoining properties owned by the applicant.

Table 12 shows the estimated distribution of heavy vehicle traffic to and from the proposed development site with reference to Figure 5.

The haulage route for incoming grains and roughages shall be from the North Star region originating from the properties Myall Downs and Yetman West which are owned by the applicant or related entities via Getta Getta Road.

The haulage route for incoming cattle from Central NSW will be from the south via the Allan Cunninham Road, Gwydir Highway to Warialda Road to North Star Road to Getta Getta Road. The haulage route for incoming cattle from Northern NSW will be from the north via the Bruxner Way to North Star Road to Getta Getta Road.

The haulage route for outgoing livestock vehicles will be Getta Getta Road west to the North Star Road then south to Warialda Road and the Gwydir Highway to processing facilities located at Inverell (Bindaree Processing facility).

The haulage route for incoming supplements shall be from Warwick (QLD) to the Bruxner Way via Texas Road to Warialda Road to Getta Getta Road.

The haulage route for incoming proteins (whole cottonseed) shall be from Goondiwindi via the Bruxner Way to North Star Road to Getta Getta Road.



	Getta Getta Road (E, F, G)					
	To west	From west	To east	From east		
	North Star Road	North Star Road	Warialda Road	Warialda Road		
	%	%	%	%		
Cattle						
Incoming	0	100	0	0		
Outgoing	100	0	0	0		
Commodities						
Grains	0	100	0	0		
Proteins	0	100	0	0		
Roughages	0	0	0	0		
Liquids	0	0	0	0		
Supplements	0	50	0	50		

#### Table 12 – Proposed development – Traffic generation distribution – Getta Getta Road (Loaded vehicles)

	Bruxner Way (A, B, C)			North Star Road (D, H)				
	To west	From west	To east	From east	To north	From north	To south	From south
	Boggabilla	Boggabilla	Yetman	Yetman	Bruxner Way	Bruxner Way	Warialda Road	Warialda Road
	%	%	%	%	%	%	%	%
Cattle								
Incoming	0	0	0	0	0	0	0	100
Outgoing	0	0	0	0	0	0	100	0
Commodities								
Grains	0	0	0	0	0	0	0	0
Proteins	0	100	0	0	0	100	0	0
Roughages	0	0	0	0	0	0	0	0
Liquids	0	0	0	0	0	0	0	0
Supplements	0	0	0	100	0	100	0	0

# Table 13 – Proposed development – Traffic generation distribution – Bruxner Way and North Star Road (Loaded vehicles)



	Warialda Road (G, I)					
	From south	To south	From north	To north		
	Warialda	Warialda	Bruxner Way	Bruxner Way		
	%	%	%	%		
Cattle						
Incoming	100	0	0	0		
Outgoing	0	100	0	0		
Commodities						
Grains	100	0	0	0		
Proteins	0	0	0	0		
Roughages	0	0	0	0		
Liquids	0	0	0	0		
Supplements	0	0	50	0		

#### Table 14 – Proposed development – Traffic generation distribution – Warialda Road (Loaded vehicles)





#### Figure 5 – Proposed development – Road network and segments schematic

# 4.4 Traffic impacts

The traffic impact analysis is focused on the impacts of the traffic generated by proposed development on three key intersections close to the development site access. The impacts of the proposed development on public transport, active transport, parking and traffic safety have also been assessed.

#### 4.4.1 Assessment scenarios

It is standard practice when analysing future year traffic operations to adopt a ten-year design horizon from the year of full operation. The proposed development shall be developed in one stage.

Traffic conditions have been assessed for operation at the expected year of opening of the first stage (2024) through to 10 years to 2034, which represents the 10-year design horizon.

Traffic associated with construction activities of the proposed development have not been assessed as the proposed development shall be accommodated within the existing development built infrastructure by reducing the approved stocking density. Consequently, there are no construction generated movements.

## 4.4.2 Road network performance

The traffic generation and distribution from the site has been assessed and the impacts of the proposed development on the local road network and state controlled road network, namely Getta Getta Road, North Star Road, Warialda Road and Bruxner Way have been reviewed.

The impact on performance of the existing road network by the proposed development has been assessed in terms of the Levels of Service (LOS) of the roads and key intersections.

#### 4.4.2.1 LOS criteria

The LOS criteria for roads have been based on peak hour flows per direction for rural roads as defined in RTA's Guide to Traffic Generating Developments (RTA, 2002) and detailed in Table 15 for a design speed of 100 km/hr and heavy vehicle percentage of 15.

Terrain	Level of service (LOS)	Percent of heavy vehicles 15	Performance standard
Flat	В	530	
	С	870	Weekday peak hour flows
	D	1,410	Recreational peak hours (weekends)
	E	2,290	

#### Table 15 – Peak hour flow on two-lane rural roads

The performance standards recommended by RTA (2002), reflect the fact that recreational peak hour periods (weekend peaks, or peaks associated with particular tourist or recreational activity), occur less frequently than weekday commuter peak hour periods.

#### 4.4.2.2 Getta Getta Road

Traffic count data is not available for existing traffic on Getta Getta Road. The peak hour flow capacity has been assumed to be in the order of 11% of AADT. With a capacity of up to 50 vpd, the peak hour flow is in the order of 8.25 vph. The development generated traffic would increase the peak hour two-way traffic volume on Getta Getta Road by about 1.1 vph to the east of the entrance and about 1.07 vph to the west of the entrance as shown in Table 16.

This is well below the performance standard of LOS C recommended by RTA (2002).

Given the rural nature of the area and the seasonality of the rural / agricultural activities in the area it could be expected that the traffic movements will reflect the grain planting and harvest windows which occur between September to January and April to June and December to February and October to November for summer and winter cropping programs respectively.



The rural nature of the area and the seasonality of the rural / agricultural uses may result in a degree of unevenness in the traffic distribution across the year due to planting and harvesting periods, however.

# Table 16 – Proposed Development – Additional traffic generation on local road network (All vehicles)

Road	Classification	Development trips	
	vpd	AADT	Peak hour
Getta Getta Road (west of entrance)	Sealed – Low volume	~2.62	~1.07
Getta Getta Road (east of entrance)	Sealed – Low volume	~1.47	~1.10

#### 4.4.2.3 North Star Road

The peak hour flow capacity has been assumed to be in the order of 11% of AADT. With a capacity of up to 150 vpd, the peak hour flow is in the order of 16.5 vehicles per hour (vph) as a worst case scenario. The development generated traffic would increase the peak hour two-way traffic volume on North Star Road by about 0.4 vph (Table 17).

# Table 17 – Proposed Development – Additional traffic generation on regional road network (All vehicles)

Road	Classification	Development trips	
	vpd	AADT	Peak hour
North Star Road (north of North Star)	Sealed – Regional	~0.4	~0.22
North Star Road (south of North Star)	Sealed – Regional	~1.10	~0.61

Given the rural nature of the area and the seasonality of the rural / agricultural activities in the area it could be expected that the traffic movements will reflect the grain planting and harvest windows which occur between September to January and April to June and December to February and October to November for summer and winter cropping programs respectively.



#### 4.4.2.4 Warialda Road

The AADT recorded on Warialda Road in 2008 was 538 vpd with 139 vpd (~26%) being heavy vehicles (Class 3 to 10). The peak hour flow was obtained from the NSW traffic viewer and was 48 vph (8% of AADT). The development generated traffic would increase the peak hour two-way traffic volume on Warialda Road south of North star Road by about 0.61 vph (Table 18).

# Table 18 – Proposed Development – Additional traffic generation on regional road network (All vehicles)

Road	Classification	Development trips	
	vpd	AADT	Peak hour
Warialda Road (north of Getta Getta Road)	Sealed – Regional	~0.04	~0.02
Warialda Road (south of North Star Road)	Sealed – Regional	~1.10	~0.61

This is well below the performance standard of LOS C recommended by RTA (2002).

#### 4.4.2.5 Bruxner Way

The AADT recorded on the Bruxner Way in 2008 was 668 vpd with 99 vpd (~15%) being heavy vehicles (Class 3 to 10). The peak hour flow was obtained from the NSW traffic viewer and was 598 vph (8% of AADT). The development generated traffic would increase the peak hour two-way traffic volume on the Bruxner Way west of North Star Road by about 0.4 vph (Table 19).

# Table 19 – Proposed Development – Additional traffic generation on regional road network (All vehicles)

Road	Classification	Development trips	
	vpd	AADT	Peak hour
Bruxner Way (west of North Star Road)	Sealed – Regional	~0.4	~0.22
Bruxner Way (east of North Star Road)	Sealed – Regional	~0.04	~0.02

This is well below the performance standard of LOS C recommended by RTA (2002).



## 4.4.3 Assessed intersections

4.4.3.1 North Star Road / Getta Getta Road intersection

North Star Road forms a T-intersection with Getta Getta Road at North Star with the Getta Getta Road. The North Star Road / Getta Getta Road intersection is an uncontrolled T-intersection and is shown in Photograph 26. The intersection has the following properties:

- Give way signage on the North Star Road southern approach;
- The intersection has no posted speed limit;
- The intersection has adequate visibility (>300m) to the east and west to meet Austroads requirements for a 100 km/h design speed as shown in Photograph 26 and Photograph 28.
- There is a simple right turn treatment (SR) southbound and simple left turn treatment (SL) northbound on North Star Road; and
- Photograph 26 show that the North Star Road / Getta Getta Road T-intersection has no signs of pavement breakup in the throat of the intersection due to vehicle turning movements.



Photograph 26 – North Star Road / Getta Getta Road Intersection (Looking south)





Photograph 27 – North Star Road / Getta Getta Road Intersection (Looking west)



Photograph 28 – North Star Road / Getta Getta Road Intersection (Looking east)

Figure 6 illustrates an aerial view of the North Star Road / Getta Getta Road T intersection.





Figure 6 – North Star Road / Getta Getta Road Intersection – Aerial image (QLD Globe)



#### 4.4.3.2 North Star Road / Bruxner Way intersection

The North Star Road / Bruxner Way intersection is a priority sign-controlled T-intersection with North Star Road the terminating leg as shown in Photograph 29, Photograph 30 and Photograph 31. The intersection has the following properties:

- Give way signage on the North Star Road approach;
- Advanced warning signage on all approaches;
- The intersection has no posted speed limit;
- There is a simple left turn treatment (SL) westbound on the Bruxner Way and simple right turn treatment (SR) eastbound on the Bruxner Way;
- Photograph 29, Photograph 30 show that the North Star Road / Bruxner Way Tintersection has signs of pavement breakup in the throat of the intersection due to left out vehicle turning movements.



Photograph 29 – North Star Road / Bruxner Way Intersection (Looking south)





Photograph 30 – North Star Road / Bruxner Way Intersection (Looking east)



Photograph 31 – North Star Road / Bruxner Way Intersection (Looking west)

Figure 7 illustrates an aerial view of the North Star Road / Bruxner Way T intersection.





Figure 7 – North Star Road / Bruxner Way Intersection – Aerial image (QLD Globe)



#### 4.4.3.3 North Star Road / Warialda Road intersection

The North Star Road / Warialda Road intersection is a priority sign-controlled T-intersection with North Star Road the terminating leg as shown in Photograph 32. The intersection has the following properties:

- Give way signage on the North Star Road approach;
- Advanced warning signage on all approaches;
- The intersection has no posted speed limit;
- There is an Auxiliary Left Turn (AUL) and Channelised Right Turn (CHR) treatment northbound and southbound on Warialda Road respectively.
- Photograph 32, Photograph 33 and Photograph 34show that the North Star Road / Warialda Road T-intersection has no signs of pavement breakup in the throat of the intersection due to vehicle turning movements.



Photograph 32 – North Star Road / Warialda Road Intersection (Looking north)





Photograph 33 – North Star Road / Warialda Road Intersection (Looking south)



Photograph 34 – North Star Road / Warialda Road Intersection (Looking east)

Figure 8 illustrates an aerial view of the North Star Road / Warialda Road T intersection.





Figure 8 – North Star Road / Warialda Road Intersection – Aerial image (QLD Globe)



#### 4.4.3.4 Getta Getta Road / Warialda Road intersection

The Getta Road / Warialda Road intersection is a priority sign-controlled T-intersection with Getta Road the terminating leg as shown in Figure 9. The intersection has the following properties:

- Give way signage on the Getta Getta Road approach;
- Advanced warning signage on all approaches;
- The intersection has no posted speed limit;
- There is a simple left turn treatment (SR) and simple right turn treatment (BR) northbound and southbound on Warialda Road respectively.
- Photograph 35, Photograph 36 and Photograph 37 show that the Getta Getta Road / Warialda Road T-intersection has no signs of pavement breakup in the throat of the intersection due to vehicle turning movements.



Photograph 35 – Getta Getta Road / Warialda Road Intersection (Looking south)





Photograph 36 – Getta Getta Road / Warialda Road Intersection (Looking north)



Photograph 37 – Getta Getta Road / Warialda Road Intersection (Looking east)

Figure 9 illustrates an aerial view of the Getta Getta Road / Warialda Road T intersection.


Figure 9 – Getta Getta Road / Warialda Road Intersection – Aerial image (QLD Globe)



### 4.4.4 Rail safety

The closest railway is the Moree to North Star section of the inland rail. This railway line crosses the I B Bore Road at North Star. The proposed development shall not add any additional traffic to the I B Bore Road.

The disused Camurra Boggabilla railway cross North Star Road north of North Star. As the railway is used there are no safety related aspects to be considered for this railway line.

### 4.4.5 Road safety

There is likely to be no significant impacts on road safety as the proposed development does not make any changes to the local roads, access is from a local road and traffic volumes are not significant. The analysis for the crash data during the past five years shows that the crash rates at the local intersections are very low.

4.4.5.1 Warrants

4.4.5.1.1 North Star Road / Getta Getta Road

The North Star Road / Getta Getta Road intersection is a brownfield site and has been historically constructed with no pavement widening (or turning treatments) and hence does not meet the current standard for a BAL when turning left into North Star Road. Further, whilst there is some widening as a result of the intersection generally, the intersection does not meet the current standard for a BAR when turning right into North Star Road.

# The North Star Road / Getta Getta Road intersection is considered a brownfield site with low turning volumes (

Table 12) and existing constraints.

Consequently, with reference to Figure 11 and Figure 11, a of simple left (SL) and simple right (SR) turning movement provision is acceptable.

Further, as the traffic volume at the intersection is low, the conflicts between through and turning vehicles are considered rare enough not to warrant the cost of upgrade the intersection. Further, there is no pre-existing safety record at the intersection.

Consequently, no upgrades or improvements works are required to be provided at the North Star Road / Getta Getta Road intersection for the proposed development from a safety perspective.





Figure 10 – Warrants for turn treatments on major roads at unsignalised intersections (Austroads, 2017)





4.4.5.1.2 North Star Road / Bruxner Way

The North Star Road / Bruxner Way intersection is a brownfield site and has been historically constructed with no pavement widening (or turning treatments) and hence does not meet the current standard for a BAL when turning left into North Star Road. Further, whilst there is some widening as a result of the intersection generally, the intersection does not meet the current standard for a BAR when turning right into North Star Road.



The North Star Road / Bruxer Way intersection is considered a brownfield site with low turning volumes (Table 13).

Consequently, with reference to Figure 11 and Figure 11, a of simple left (SL) and simple right (SR) turning movement provision is acceptable.

Further, as the traffic volume at the intersection is low, the conflicts between through and turning vehicles are considered rare enough not to warrant the cost of upgrade the intersection. Further, there is no pre-existing safety record at the intersection.

Consequently, no upgrades or improvements works are required to be provided at the North Star Road / Bruxner Way intersection for the proposed development from a safety perspective.

4.4.5.1.3 North Star Road / Warialda Road

Evaluation of the safety performance of the North Star Road / Warialda Road intersection is not deemed warranted given the existing AUL/CHR treatment levels at this intersection.

4.4.5.1.4 Getta Getta Road / Warialda Road

The Getta Getta Road / Warialda Road intersection is a brownfield site and has been historically constructed with no pavement widening (or turning treatments) and hence does not meet the current standard for a BAL when turning left into Getta Getta Road. Further, whilst there is some widening as a result of the intersection generally, the intersection does not meet the current standard for a BAR when turning right into Getta Getta Road.

The Getta Road / Warialda intersection is considered a brownfield site with low turning volumes (Table 16 and Table 18).

Consequently, with reference to Figure 11 and Figure 11, a of simple left (SL) and simple right (SR) turning movement provision is acceptable.

Further, as the traffic volume at the intersection is low, the conflicts between through and turning vehicles are considered rare enough not to warrant the cost of upgrade the intersection. Further, there is no pre-existing safety record at the intersection.

Consequently, no upgrades or improvements works are required to be provided at the North Star Road / Getta Getta Road intersection for the proposed development from a safety perspective.



### 4.4.5.2 Signage

To further improve road safety, additional safety measures are proposed due to the additional volume of heavy vehicles imposed on the road network. These include:

• It is recommended that advanced warning signage (Truck crossing or entering) as shown in Figure 12 be implemented on each approach to the development site entrance on Getta Getta Road in accordance with AS1742.2 Clause 4.11.2.5 to warn motorists and improve road safety.



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### Figure 12 – Truck crossing or entering sign (AS1742.2 Clause 4.11.2.5

### 4.4.6 Access arrangements

4.4.6.1 Location

Access to the proposed development shall be from a new dedicated subject land entrance off Getta Getta Road some 200 m east of the existing subject land entrance as shown in Figure 3 respectively. The purpose built internal road shall be constructed to connect the new development entrance to the infrastructure of the proposed development.

The existing subject land entrance shall be maintained for light and heavy vehicles servicing the subject land homestead and agricultural commodities produced on the subject land and not destined for the proposed development.

The proposed development entrance off Getta Getta Road is to be located some 200 m east of the existing subject land entrance (2513 Getta Getta Road). The proposed development entrance shall be the principal light and heavy vehicle access to and from the proposed development. All livestock and commodity delivery vehicles associated with the proposed development shall be required to enter the site via the proposed development entrance. The proposed development entrance shall be designed to provide an efficient, functional and safe access to the proposed development site for the type of traffic generated by the proposed development. The largest vehicle configuration proposed to access the site is a Type 1 road train. Consequently, the proposed entrance shall accommodate vehicle up to a Type 1 road



train configuration. This access shall also be used by light vehicles such as staff and service vehicles. This entrance is directly off Getta Getta Road a local controlled road.

The proposed entrance is shown on Figure 3. The proposed entrance is located on a straight downhill (from the west) section of Getta Getta Road and is not located on a bend with a radius of less than 450 m.

The proposed entrance shall be constructed and is maintained to an industrial standard in accordance with Chapter 7 Property access Subsection 7.2.3 Rural Roads of Guide to Road Design Part 4: Intersections and Crossings – General, edn 2.2 2023 (Austroads, 2023).

The proposed entrance shall be of sufficient width (8 m) to allow for two vehicles to pass on the road to ensure that Type 1 road trains will not be required to queue when turning off the Getta Getta Road to wait for a vehicle to exit the site.

Further, the proposed entrance off Getta Getta Road is not located within 15 m of a signalised road intersection, 10 m from an un-signalised road intersection, within 2 m of any adjoining property access or within 1 m of any street signage, power pole, street light or other council infrastructure.



Photograph 38 – Proposed development site – Proposed entrance (looking east)



# Photograph 39 – Proposed development site – Proposed entrance (looking west)

The road access safety assessment shall be undertaken in accordance with clause 3.4 of Austroads Guide to Road Design Part4A: Unsignalised and Signalised Intersections August 2017 (Austroads, 2017), with consideration of the proposed entrance as an intersection. The following sections outline the assessment.

4.4.6.2 Safety assessment

The road safety assessment shall determine the following types of sight distance required for the existing entrance:

- approach sight distance (ASD); and
- safe intersection sight distance (SISD);

4.4.6.2.1 Angle of approach

The proposed entrance onto the Getta Getta Road for northbound vehicles is at 90 degrees as shown in Figure 3. This is the most desirable angle of egress as this will usually produce the best sight distance for road vehicles.

4.4.6.2.2 Vertical geometry

Getta Getta Road has a downhill vertical grade of about 0.25% to the east in the vicinity of the proposed entrance as shown in Photograph 38 and Photograph 39. There are no floodway dips or crests in the sight distance section.



### 4.4.6.2.3 Horizontal geometry

Getta Getta Road has a straight horizontal approach to the east and west in the vicinity of the proposed entrance as shown in Photograph 38 and Photograph 39.

4.4.6.2.4 Approach Sight Distance (ASD)

4.4.6.2.4.1 Cars

The minimum level of sight distance available on the minor road approaches to all intersections to ensure that drivers are aware of the presence of an intersection is defined as the Approach Sight Distance (ASD). The ASD has been calculated as it assumed that not all light vehicles using Getta Getta Road would be aware of the access. The ASD has been calculated in accordance with Austroads (2021b) and Equation 1.

$$ASD = \frac{R_{\tau} \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$
 Equation 1

Where:-

ASD = approach sight distance (m) $R_T$ = reaction time (sec);V= operating (85th percentile) speed (km/h);D= coefficient of deceleration;a= a longitudinal grade in % (in direction of

a = a longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade) (Austroads, 2021b)

The desirable speed environment for a sealed rural – low volume road is 100 km/hr.

Table 20 – Proposed development – Getta Getta Road entrance – Approach
sight distance – Design criteria

		Approa	nch site dist crit	ance (ASD) eria	) design
		West	bound	Easth	oound
Parameter	Unite	Light	Heavy	Light	Heavy
	Units	Vehicle	Vehicle	Vehicle	Vehicle
		Car	Trucks	Car	Trucks
Design operating speed, V	km/hr	100	90	100	90
Reaction time, $\mathbf{R}_T$	S	2.5	2.5	2.5	2.5
Coefficient of deceleration, D		0.46	0.29	0.46	0.29
Longitudinal grade, a	%	0.25	0.25	-0.25	-0.25
ASD	m	155	172	155	173



### 4.4.6.2.4.2 Trucks

Obtaining an Approach Sight Distance (ASD) is not deemed necessary for heavy vehicles as the users are familiar with the access location to the proposed development.

### 4.4.6.2.5 Safe Intersection Sight Distance (SISD)

SISD is the minimum sight distance which should be provided on Getta Getta Road at the proposed development site entrance to the subject land. An analysis of the existing geometry for SISD (both directions) was undertaken on-site. The SISD was calculated for Normal Design Domain (NDD) and Extended Design Domain (EDD) for both cars and trucks (B-Double/Type 1 road train) using the following equation and design factors as shown in Table 21 and Table 22 respectively. Tables 3 and 4 detail the finding of the SISD assessment. An object height for the application of SISD of 1.25 m has been used. The SISD has been calculated in accordance with Austroads (2021b) and Equation 2.

$$SISD = \frac{D_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$
 Equation 2

Where:-

SISD	= safe intersection sight distance (m);
$D_T$	= decision time (sec) = observation time $O_T$ (3 sec) + reaction time $R_T$ (sec);
V	= operating $(85_{\text{th}} \text{ percentile})$ speed $(\text{km/h})$
D	= coefficient of deceleration
a	= a longitudinal grade in % (in direction of travel: positive for uphill grade,
	negative for downhill grade) (Austroads, 2021b).

An operating (85th percentile) speed of Getta Getta Road of 100 km/hr has been used for light vehicles and 90 km/hr for heavy vehicles. This represents a representative scenario for this section of the road as the road is sealed and is not speed sign posted.



		Normal Design Domain (NDD) design criteria						
		West	bound	Eastbound				
Parameter	Unita	Light	Heavy	Light	Heavy			
	Units	Vehicle	Vehicle	Vehicle	Vehicle			
		Car	Trucks	Car	Trucks			
Design speed, V	km/hr	100	90	100	90			
Reaction time, R <sub>T</sub>	S	2.5	2.5	2.5	2.5			
Observation time, O <sub>T</sub>	S	3	3	3	3			
Decision time, $D_T$	S	5.5	5.5	5.5	5.5			
Coefficient of deceleration, $D$		0.46	0.29	0.46	0.29			
Driver height	m	1.1	2.4	1.1	2.4			
Object height	m	1.25	1.25	1.25	1.25			
Longitudinal grade, a	%	0.25	0.25	-0.25	-0.25			
SISD	m	238	248	239	248			

# Table 21 – Proposed development – Getta Getta Road entrance – SISD NDD design criteria

# Table 22 – Proposed development – Getta Getta Road entrance – SISD EDD design criteria

		Extended Design Domain (NDD)						
		West	bound	Easth	ound			
Parameter	Units	Light	Heavy	Light	Heavy			
	Units	Vehicle	Vehicle	Vehicle	Vehicle			
		Car	Trucks	Car	Trucks			
Design speed, V	km/hr	100	90	100	90			
Reaction time, $R_T$	S	2.5	2.5	2.5	2.5			
Observation time, $O_T$	S	1	1	1	1			
Decision time, $D_T$	S	3.5	3.5	3.5	3.5			
Coefficient of deceleration, D		0.46	0.29	0.46	0.29			
Driver height	m	1.1	2.4	1.1	2.4			
Object height	m	1.25	1.25	1.25	1.25			
Longitudinal grade, a	%	0.25	0.25	-0.25	-0.25			
SISD	m	182	197	183	198			

<sup>#</sup> EDD SISD – an observation time ( $O_T$ ) of 0.5 sec less than the values given in Appendix A.3 (Austroads, 2021b) has been used.

#### 4.4.6.2.6 Queue assessment

Heavy vehicles shall have no requirement to queue across Getta Getta Road. As shown on Figure 3, there is sufficient queuing distance for northbound vehicles on the subject land prior to the crossover.



### 4.4.6.2.7 Summary

A summary of the sight distance assessment results for the proposed development site entrance off Getta Getta Road are provided in Table 23.

# Table 23 – Proposed development – Getta Getta Road entrance – Sight distance summary

		Proposed entrance					
		East	bound	ind Westbour			
Parameter	Units	Light Vehicle Car	Heavy Vehicle Trucks	Light Vehicle Car	Heavy Vehicle Trucks		
ASD	m	155	172	155	173		
SISD NDD required	m	238	248	239	248		
SISD EDD required	m	182	197	183	198		
Available sight distance	m	+300	+300	+250	+250		

The analysis of the westbound and eastbound approaches demonstrates that for the adopted design speed of 100 km/hr for light vehicles and 90km/hr for heavy vehicles that the SISD is achieved as shown in Table 23.

The available sight distance at the entrance is good due to the straight alignment of Getta Getta Road and the relatively flat topography at this location as shown in Photograph 38 and Photograph 39. A sight distance in excess of 250 m safe intersection sight distance (SISD) has been measured in both directions. Consequently, no upgrades are recommended.

#### 4.4.6.2.8 Geometric layout

The proposed entrance off Getta Road to the proposed development complex site shall be all weather and shall be designed and constructed generally in accordance with geometric designs referenced in Austroads (2023).

### 4.4.7 Parking

#### 4.4.7.1 Parking arrangements

To ensure the provision for parking adequately services the proposed development, the parking demand has been estimated at 4 full time equivalent staff members plus the provision of parking for the loading and unloading of goods including livestock and commodities within the site. A conservative assumption has been adopted as each staff member will require an individual parking space.

The proposed development has a large site area which is sufficient to provide for at least 5 informal carparking areas located across the development complex site. Further, the site area

provides sufficient area for light and heavy vehicles up to a Type 1 road train to manoeuvre and turn around on-site and enter / exit the proposed development site in a forward direction.

### 4.4.7.2 Adequacy of car parking

Figure 3 indicates several informal gravel car parking areas of which dimensions are able to accommodate a total of over 5 staff parking spaces, plus heavy vehicle spaces. Due to the nature of the proposed development and its location in a rural area this provision is considered to be appropriate in accordance with the requirements of staff and the expected delivery of commodities and livestock.

Provision of parking for persons with disability and general access shall be made in accordance with the requirements of Australian Standards AS1428 – Design for access and mobility and AS2890.6 – Parking facilities as far as they are relevant to the proposed development.

There is no requirement to have a formal pedestrian connection to buildings from parking areas.

There is no requirement for allocation of specific service areas for waste collection, deliveries and loading and unloading of other goods.

### 4.4.8 Public transport

Due to the rural location of the subject land there is no scheduled public transport operations such as passenger / school bus or train services along haulage routes comprising Getta Road, North Star Road, Warialda Road (Warialda to North Star Road), Bruxner Way (Texas Road to North Star Road) or the Gwydir Highway.

Due to the nature of the proposed development provision for public transport infrastructure is not deemed warranted.

Consequently, the proposed development shall have no impact on public transport services.

### 4.4.9 Cyclists and pedestrians

Due to the rural location of the subject land there are no pedestrian paths, bicycle lanes or bicycle awareness zones provided on Getta Road. Further afield there are no pedestrian paths, bicycle lanes or bicycle awareness zones provided within rural segment of North Star Road, Warialda Road, Bruxner Way or the Gwydir Highway.

Due to the nature of the proposed development provision for pedestrian paths or bicycle infrastructure is not deemed warranted.



Consequently, the proposed development shall have no impact on cyclist or pedestrian infrastructure.

### 4.4.10 Conclusion

The impact of traffic generated by the proposed development on the external transport network has been assessed. Consideration has been given to operational performance, road safety and access arrangements.

The assessment was carried out of the trips likely to be generated by the proposed development and the estimated distribution of trips on the existing road network. The impact of the proposed development on the road network has been analysed using procedures set out in Austroads.

Results of the assessment indicate that the road network continues to operate with capacity as the additional levels will be within the standard of the existing road design. Consequently, the impact of development traffic on the operational performance of the local road network is not significant.

No upgrades are recommended under proposed additional traffic within the sealed section of Getta Getta Road. No intersection upgrades to the local or state controlled road network would be warranted due to the low additional volume of development traffic.

The following mitigation measures are proposed or maintained:

- Access for light and heavy vehicles be maintained via a new dedicated subject land entrance off Getta Getta Road approximately 200 m east of the existing subject land entrance to provide sufficient sight distances to and from the intersection.
- Advisory signage (Truck crossing or entering) be implemented on each approach to the new entrance on Getta Getta Road in accordance with AS1742.2 to advise motorists of truck turning movements.
- A Traffic Management Plan shall be implemented to ensure heavy vehicles utilise the principal haulage routes.

In conclusion, the proposed development will not adversely impact on the operational performance of the surrounding road network and the proposed road access arrangements are considered adequate and suitable for the proposed use and estimated traffic generated.



## **5** References

Austroads, 2020a, Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management, Austroads, Sydney, NSW.

Austroads, 2020b, Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments , Austroads, Sydney, NSW.

Austroads 2021a, Guide to Road Design Part 3: Geometric Design, AGTM04A-17, Austroads, Sydney, NSW.

Austroads 2021b, Guide to traffic management: part 4A: Unsignalised and Signalised Intersections, AGTM04A-17, Austroads, Sydney, NSW.

Austroads, 2023, Guide to Road Design Part 4: Intersections and Crossings – General, edn 2.2 2023, AGRD04-23, Austroads, Sydney, NSW. https://austroads.com.au/publications/road-design/agrd04

Gwydir Shire Council, 2013, *Gwydir Local Environment Plan 2013*, Gwydir Shire Council, Bingara, New South Wales.

Roads and Traffic Authority, 2002, Guide to Traffic Generating Developments, Version 2.2, Transport Planning Section, Sydney Client Services, Roads and Traffic Authority, Sydney NSW.

Roads and Maritime Services, 2013, Austroads Supplement for Guide to Traffic Management Roads and Maritime Services, Sydney NSW.

Roads and Traffic Authority, 2011, RTA Supplement to the Austroads Guide to Road Transport Planning, Roads and Traffic Authority, Sydney NSW.



## Appendix A – TfNSW Traffic volume reports



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#### Gwydir Highway (91078) Data

04/02/2	2011 - 13/02/2011	All	Days	Ê	00:00 - 24:	00 0	All Veh	nicles	🖨 B	oth Directio	ns 🞯	Reset
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YEAR	DIRECTION	VEHICLE TYPE	TOTAL	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:0
2011	Eastbound	All Vehicles	636	4	2	2	3	3	5	14	29	56
2011	Eastbound	Heavy Vehicles	98	2	2	2	2	1	2	3	5	8
2011	Eastbound	Light Vehicles	563	4	2	1	2	2	4	13	25	49
2011	Westbound	All Vehicles	640	4	3	2	2	3	9	21	34	39
2011	Westbound	Heavy Vehicles	87	2	2	1	2	2	3	4	6	6
2011	Westbound	Light Vehicles	569	3	2	2	1	3	7	18	28	33
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#### Bruxner Highway (91506) Data

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2006	Eastbound	All Vehicles	328	4	3	3	5	2	5	8	9	14	î
2006	Eastbound	Heavy Vehic	les 52	1	1	1	1	1	1	2	2	3	
2006	Eastbound	Light Vehicle	es 299	5	3	3	4	2	4	7	8	12	
2006	Westbound	All Vehicles	340	4	4	2	3	4	3	4	9	14	
2006	Westbound	Heavy Vehic	les 47	1				1	1	1	2	2	
2006	Westbound	Light Vehicle	es 319	4	4	2	3	3	3	4	8	14	
2008	Eastbound	All Vehicles	391	3	2	2	2	3	6	13	21	25	
2008	Eastbound	Heavy Vehic	les 78	2	2	2	2	2	2	3	4	4	
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## Appendix B – Traffic Management Plan

Development Application and Environmental Impact Statement

Expansion of Beef Cattle Feedlot from 999 head to 3,000 head

## Operation Traffic Management Plan and Truck Driver Code of Conduct

"Springfield" 2513 Getta Getta Road NORTH STAR NSW 2408



AGRICULTURAL

ENVIRONMENTAL

PROJECT MANAGEMENT

Doolin Farming Pty Ltd "Glenhoma" 3202 Getta Getta Road NORTH STAR NSW 2408

[February 2025]

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Project:	Proposed expansion of Springfield feedlot

Project No: E2-103

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Signature:		Date:	21/02/2025				

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V1R2	21/02/2025	Final for lodgement to GSC	Rod Davis	Rod Davis	Rod Davis

#### Distribution

Version	Recipient	Lodgement	Copies
V1R1	Doolin Farming Pty Ltd	Electronic	-
V1R2	Doolin Farming Pty Ltd / Gwydir Shire Council (GSC)	Electronic	-

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## **Executive Summary**

Doolin Farming Pty Ltd own and operate a 10,000 ha mixed farming operation across several properties at North Star including "Glenhoma", "Glenmodel", "Springfield", "Myall Downs" and "Yetman West" some 27 km east of Yetman and 45 km south-southeast of Goondiwindi (QLD) in NSW.

Doolin Farming Pty Ltd primarily engage in dryland and irrigated cropping and beef production. Doolin Farming Pty Ltd produces wheat, barley, oats and chickpeas in winter and cotton and maize in summer under pivot irrigation systems and dryland sorghum cropping. Doolin Farming Pty Ltd also have onsite storage to accommodate almost the entire grain produced and operate a fleet of trucks to transport their grain.

Central to the beef production enterprise is the breeding, growing and lot-feeding of cattle for the domestic and export markets. Currently the beef supply chain includes breeding and growing of beef cattle on land less suitable for dryland and irrigated cropping and grazing of stubble and lot feeding of cattle within a feedlot on the property 'Springfield'.

"Springfield" comprises some 1,713 ha (~4,231 acres) and currently, a dryland and irrigated cropping business is undertaken on a large proportion of the property with extensive cattle breeding and grazing of beef cattle on the remaining land which is unsuitable for cropping and lot feeding of cattle within a beef cattle feedlot in the north-east of the property. In the last few years, beef cattle bred on several adjoining properties have been walked into a feeding program on "Springfield" upon weaning. "Springfield" has built infrastructure such as a dwelling, machinery sheds, silos, cattle yards and feedlot etc to support the feeding program.

There has been a beef cattle feedlot on "Springfield" for over three years after approval was granted for a 999 head feedlot by the Gwydir Shire Council in 2021 (DA31/2020). The existing feedlot is known as Springfield Feedlot. Springfield Feedlot is used to finish the Doolin Farming's own cattle for the domestic and export markets.

Springfield Feedlot currently operates for 12 months of the year and employs approximately 2 full time staff.

Springfield Feedlot includes one controlled drainage area with associated production pens and drainage system which includes catch drains, sedimentation basin and holding pond. Springfield Feedlot also has auxiliary infrastructure to support the use such as cattle handling and feed storage and processing facilities.

Springfield Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS) with audits conducted annually.

Doolin Farming Pty Ltd wish to expand Springfield Feedlot from the current approved capacity of 999 head by gaining development approval for intensive livestock agriculture to operate as a 3,000 head beef cattle feedlot on the site. The proposed development is to be developed in two stages with the first stage having a capacity of 1,251 head. The second stage will provide an additional 750 head, bringing the capacity of Springfield Feedlot to 3,000 head.



The proposed development will include additional production pens and redeveloped cattle handling facility within an expanded controlled drainage area, additional sedimentation basin and holding pond capacity. The proposed development will incorporate best practice design, construction and environmental management.

Existing infrastructure such as the grain storage and processing facilities have sufficient capacity to cater for the demands of the proposed development.

The property "Springfield" is within the Gwydir Shire Council local government area and relevant environmental planning instrument is the *Gwydir Local Environmental Plan 2013* (GLEP).

Beef cattle feedlots which exceed 1,000 head capacity are defined as designated development under Schedule 3 (Part 1 section 21a) of the Environmental Planning and Assessment Regulation 2000 and therefore require a full Environmental Impact Statement (EIS) to accompany the development application.

This Traffic Management Plan and Truck Driver Code of Conduct forms part of the Traffic Impact Assessment prepared as part of an EIS to support the Development Application to the Edward River Council.

A Traffic Management Plan and Truck Driver Code of Conduct shall be implemented to ensure heavy vehicles utilise the approved haulage routes.

## 1 Background

## 1.1 Introduction

Doolin Farming Pty Ltd own and operate a 10,000 ha mixed farming operation across several properties at North Star including "Glenhoma", "Glenmodel", "Springfield", "Myall Downs" and "Yetman West" some 27 km east of Yetman and 45 km south-southeast of Goondiwindi (QLD) in NSW.

Central to the beef production enterprise is the breeding, growing and lot-feeding of cattle for the domestic and export markets. Currently the beef supply chain includes breeding and growing of beef cattle on land less suitable for dryland and irrigated cropping and grazing of stubble and lot feeding of cattle within a feedlot on the property 'Springfield".

"Springfield" comprises some 1,713 ha (~4,231 acres) and currently, a dryland and irrigated cropping business is undertaken on a large proportion of the property with extensive cattle breeding and grazing of beef cattle on the remaining land which is unsuitable for cropping and lot feeding of cattle within a beef cattle feedlot in the north-east of the property.

There has been a beef cattle feedlot on "Springfield" for over three years after approval was granted for a 999 head feedlot by the Gwydir Shire Council in 2021 (DA31/2020).

The existing feedlot is known as Springfield Feedlot. Springfield Feedlot is used to finish the Doolin Farming's own cattle for the domestic export market.

Springfield Feedlot currently operates for 12 months of the year and employs approximately 2 full time staff. Casual staff and contractors are engaged as required during busy periods such as planting and harvesting of silage and fodder and to supply various associated services such as plant maintenance and veterinary requirements.

Springfield Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS) with audits conducted annually.

The property "Springfield" is within the Gwydir Shire Council local government area and relevant environmental planning instrument is the *Gwydir Local Environmental Plan 2013* (GLEP).

Doolin Farming Pty Ltd wish to expand Springfield Feedlot from the current approved capacity of 999 head by gaining development approval for intensive livestock agriculture to operate as a 3,000 head beef cattle feedlot on the site. The proposed development is to be developed in two stages with the first stage having a capacity of 1,251 head. The second stage will provide an additional 750 head, bringing the capacity of Springfield Feedlot to 3,000 head.

Under Schedule 1, Part 1, Item 22 of the Protection of the Environment Operations Act 1987, the Project is categorised as cattle, sheep or horse accommodation. The Environmental Impact Statement Assessment (RDC Engineers Pty Ltd, 2025) identified the potential for minor



impacts on the external road network. However, it concluded any potential impacts could be managed by standard mitigation and management measures.



## 2 Purpose, scope, and objectives

## 2.1 **Purpose**

The purpose of this Operation Traffic Management Plan and Truck Driver Code of Conduct (OTMP) is to outline how Doolin Farming Pty Ltd shall manage traffic risks associated with vehicle traffic associated with the operational phase of the Development and minimise impacts of the heavy vehicle traffic on the road network, on the community and to manage the movement of heavy vehicles using best industry practice.

### 2.2 Scope

This OTMP applies to the operational phase of the Development including all Development personnel, subcontractors and visitors who use light vehicles and heavy vehicles on the designated haulage routes of the Development.

## 2.3 **Objectives**

The key objective of the OTMP is to ensure that impacts on the road network are minimised and within the scope permitted by the CoA. To achieve this objective, Doolin Farming Pty Ltd will:

- Ensure compliance with all relevant CoA, statements of commitment and reasonable community expectations;
- detail the measures that are to be implemented to ensure road safety and network efficiency during operation;
- detail the measures that are to be implemented to ensure delivery vehicle arrival times are appropriately staggered;
- detail heavy vehicle routes, access and parking arrangements and queuing procedures;
- encourage and enforce compliance and acceptance of the Truck Driver Code of Conduct by all heavy vehicle drivers using the Development;
- Protect and enhance public safety through compliance with relevant road rules and minimise conflicts with other road users;
- Minimise the heavy vehicle impacts on the community;
- Increase occupational health and safety (OH&S) understanding in relation to fatigue, vehicle operation in public areas and obligation to the general public;
- Foster an understanding and awareness within the Development of community expectations and legislative requirements in regard to heavy vehicle movements; and
- include a program to monitor the effectiveness of these measures.



## 3 Proposed development

## 3.1 Location

The Development is located at North Star approximately some 15 km by road east of the village of North Star and some 27 km west-southwest of Yetman. Regional access to the Development is from the Bruxner Way or Warialda road to North Star Road onto Getta Getta Road.

The subject land has primary frontage to Getta Getta Road (sealed) of approximately 5 km in length. Getta Getta Road intersects with North Star Road some 14 km west and with Warialda Road some 25 km east of the entrance for the proposed development complex respectively.

Getta Getta Road is a sealed road from the bridge crossing over Ottleys Creek to North Star and generally runs in an east-west direction providing one (1) lane of travel in both directions and has an unsigned speed limit.

Figure 1 is a locality plan highlighting the subject land to roads and the nearby townships of North Star and Yetman.

## 3.2 **Description**

The Development comprises a permanent pen area with adjoining feed alley in which the beef cattle are housed in the open air and provided with their daily feed and water requirements. The pen area shall incorporate water, feeding and shade infrastructure.

There are two components of the Development being the infrastructure and waste utilisation area.

The infrastructure of the Development includes:

- Production pens for beef cattle;
- Drainage system incorporating catch drains, sedimentation basin and holding pond;
- A cattle handling facility with receival/dispatch infrastructure;
- Internal roadways connecting the subject land access to the cattle handling and commodity storage facilities;

The waste utilisation area includes:

• Effluent and solid waste (manure) utilisation areas. When available, effluent shall be applied to crops land via irrigation and solid waste applied to cropping land within the dedicated utilisation areas.





## 4 Traffic Management Plan

### 4.1 **Introduction**

The OTMP is a tool for managing the impacts of the Development's activities on the road network. It provides a structured approach to planning and implementing traffic management measures.

### 4.2 **Transport limitations**

The purpose of the proposed development is to produce high-quality grain fed beef in an environmentally sustainable manner. This requires transportation of livestock to and from the site, commodities for the feed ration to the site and solid waste from the site using various sized heavy vehicles and the generation of light vehicle movements associated with staff and support services to and from the Development.

All liquid waste (effluent and domestic sewage) shall be utilised on-site. When available effluent shall be applied to crops.

The capacity of the Development is limited to 3,000 head-on-feed per day averaged over a month and controlled by the livestock management system.

### 4.3 **Transportation routes and destinations**

The transportation route for regional deliveries of livestock and feed commodities (proteins, supplements) has been determined as the State road network to Warialda using the Gwydir Highway as well as the regional road network (Warialda Road, North Star Road, Bruxner Way) and Getta Getta Road a local controlled road.

The transportation route for local deliveries of feed commodities such as grain has been determined as the local controlled road of Getta Getta Road.

All these roads have been assessed as suitable for heavy vehicle traffic.

As these are all public roads the road authority being either Gwydir Shire Council or Transport for NSW will be responsible for maintenance of the transportation routes.

Figure 22 identifies the main haulage routes to and from the Development site.





### 4.4 **Identified hazards**

Always be alert for these hazards and make adjustments as necessary. Identified hazards on or near roadways include:

- Narrow or winding roads;
- Low wires or awnings;
- Low bridges, underpasses, tunnels etc;
- Agricultural equipment;
- Blind crests and/or corners;
- Road works;
- Road pavement conditions rough, slippery surfaces;
- Low level crossings;
- Vehicle interaction;
- Poor signage; and
- Livestock and native fauna at dusk and dawn;

The vehicle itself may become a road hazard when it is parked on a roadway, broken down or otherwise.

### 4.5 **Restricted entry and areas**

All areas of the Development complex are to be considered restricted areas and must not be entered unless instructed otherwise by the Feedlot Manager.

Vehicles and drivers shall comply with all project requirements (i.e. dress code, PPE, etc.).

Drivers not complying with project requirements will not be permitted to leave the cab.

### 4.6 Vehicle entry

Entry of vehicles to Development site is restricted to the following:

- Vehicles registered by an Australian State or Territory vehicle licensing authority or vehicle exempt from registration by new South Wales Government regulation.
- Vehicles ridden or driven by staff or visitors with a valid reason to park on the Development site;
- Vehicles delivering livestock and commodities, vehicles dispatching livestock and solid waste; vehicles operated by contracting companies and service providers to the Development.



- Vehicles picking up or setting down passengers who are Staff or Visitors to the Development site.
- Emergency services vehicles; and
- Police vehicles.

### 4.7 **Light vehicle operators**

The driver of a light vehicle must:

- Not be under the influence of alcohol or other drugs;
- Hold a current Australian licence for the appropriate class of vehicle;
- Adhere to all sign posted speed limits;
- Not exceed more than 80kmh on any unsealed roads;
- Ensure all passengers wear seat-belts at all times;
- Not transport more passengers than the vehicle manufacturers specification;
- Ensure all light vehicles are parked in a safe location, fundamentally stable, in gear and with handbrake applied;
- Give way to heavy vehicles on the Site; and
- Not use mobile communication devices such as phones, personal music devices, UHF radios or satellite navigation whilst the vehicle is in motion.

## 4.8 **Operating hours**

The approved operating hours are outlined in Table 1.

#### Table 1 – Development – Operating hours

Activity	Hours
Transportation of livestock and solid waste from the site	7.00 am to 4.00 pm, Monday to Sunday
Transportation of commodities to the site	7.00 am to 4.00 pm, Monday to Sunday
Other Feedyard operations	7.00 am to 6.00 pm, Monday to Sunday

The following activities may be carried out on the site outside these hours of operation:

- (a) Delivery or dispatch of livestock for protection of animal welfare; and
- (b) Emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

In such circumstances the Development Management shall notify any affected residents prior to undertaking the activities or as soon as practical thereafter.



## 4.9 **Monitoring of transport commodities**

Monitoring of commodity transport is through the Livestock Management System that records the time and date of arrival and dispatch as well as truck, commodity type and weight.

The holder of the Environmental Protection Licence is to provide EPA with the annual volumes via the standard form with annual data reproduced within each Annual Return.

The Livestock Management System allows the Development's management to monitor the number of head-on-feed through the year to ensure compliance with CoA.

## 4.10 Vehicle arrival and departure – Queueing

All heavy vehicles arriving to the site will require scheduling or pre-notification of arrival allowing for management of livestock and commodity arrival.

All heavy vehicles arriving to the site will require scheduling or pre-notification of arrival allowing for management of livestock or solid waste departure.

If heavy vehicles arrive to site without scheduling and no capacity is available, they will be turned away.

Drivers will be made aware they are not to queue on Getta Getta Road and advised to proceed to a suitable truck parking area on the Development site before being advised by management that the Development has capacity to accept their load.

Whilst on site, all vehicles are to abide by the traffic management system and undertake all listed procedures required. Some of these requirements involve compliance with the one-way directions and speed limit.



## 5 Legislative and other requirements

### 5.1 Legal and other requirements

A register of legal and other requirements for the Project is contained in Appendix A – Legal and other requirements. The relevance of legislation is maintained through the Environmental Management System.

The legal requirements register will be reviewed at regular intervals, such as after management review, and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in the Project's Operation Environmental Management Plan.

### 5.2 Approvals, permits and licences

Several approvals, permits and licences have and/or will be obtained and maintained for the Project under relevant legislation and CoA. For example, these include:

- Development consent under the Environmental Planning and Assessment Act 1979 No 203; and
- Environmental Protection Licence under Chapter 3 of the Protection of the Environment Operations Act 1997.

Appendix A2 of the OEMP contains a register of all relevant environmental approvals, permits and licences.

## 5.3 **Conditions of Approval**

Relevant transport and traffic related CoA are outlined in Table 2. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents.

СоА	Condition requirements	Plan reference
Notice of	Determination	
	To be completed after Notice of Determination is issued	
EPL		
	To be completed after EPL is issued	

### Table 2 – Conditions of Approval – Relevant to the OTMP


## 6 Truck Driver Code of Conduct

### 6.1 General requirements

Heavy vehicle drivers delivering livestock or commodities to or transporting livestock from the Development must:

- (a) Have undertaken a site induction carried out by an authorised member of the Development staff or suitably qualified person under the direction of the Development management;
- (b) Hold a valid driver's licence for the class of vehicle that they operate;
- (c) Operate the vehicle in a safe manner within and external to the Development site;
- (d) Comply with the direction of authorised site personnel when within the site;
- (e) Comply with the *Road Transport Act 2013* and its associated regulations in regard to drug use and alcohol consumption; and
- (f) Comply with the Australian Road Rules external to the site.

## 6.2 Heavy vehicle speed

Evidence has shown that speeding increases both the risk of crash involvement as well as the severity of a crash when one occurs (Aarts & van Schagen, 2006).

There are two types of speeding:

- a) Where a heavy vehicle travels faster than the posted speed limit; and
- b) Where a driver travels within the speed limit but because of environmental or road conditions (e.g. fog, rain, pavement condition) this speed is inappropriate.

In NSW the maximum speed limit for a vehicle more than 4.5 tonnes Gross Vehicle Mass (GVM) is 100 km/h.

Drivers are to observe the posted speed limits, with speed adjusted to suit the road environment and prevailing weather conditions, to comply with the Australian Road Rules. The vehicle speed must be suitable to ensure the safe movements of the vehicle based on the vehicle configuration.

Vehicle speed on public roads is enforced by the NSW Police Service. Penalties on drivers failing to comply with speed limits include demerit points, licence suspension, cancellation or disqualification and fines.



The speed limits on the immediate local road network are presented in Table 3.

Road	Posted speed limit	<b>Regulatory speed limit</b>
Bruxner Way	100 km/hr	100 km/hr
North Star Road	Unsigned	100 km/hr
Warialda Road	100 km/hr	100 km/hr
Getta Getta Road	Unsigned	100 km/hr
Gwydir Highway	100 km/hr	100 km/hr

#### Table 3 – Development – Transportation route – Speed limit

All vehicle drivers are to adhere to the posted speed limits on-site.

Road vehicle drivers are to adhere to the following speed limits on-site:

- 25 km/h for light vehicles;
- 15 km/h for heavy vehicles.

### 6.3 Heavy vehicle driver fatigue

Driver fatigue is a major heavy vehicle safety hazard and one of the largest contributors to causes of accidents for heavy vehicle drivers. Driver fatigue, defined as driving while feeling sleepy, physically or mentally tired, or lacking energy.

The Heavy Vehicle National Law (HVNL) applies in New South Wales. The Heavy Vehicle (Fatigue Management) National Regulation commenced in 2014 and applies to trucks and truck combinations over 12 tonne GVM.

Under the HVNL, industry has the choice of operating under three fatigue management schemes:

- a) Standard hours;
- b) Basic Fatigue Management (BFM); or
- c) Advanced Fatigue Management (AFM).

Standard hours are the maximum work hours and minimum work hours under the HVNL; BFM allows flexible work and rest hours; and AFM allows a person to work their own hours in a compliant fatigue management system.

All heavy vehicle drivers are to be aware of their adopted Fatigue Management Scheme and operate within its requirements. By law, all drivers have a duty to not drive a fatigueregulated heavy vehicle on a road while impaired by fatigue.

#### 6.4 Heavy vehicle compression breaking

Noise from engine or compression brakes can be intrusive, especially at night or early morning. Heavy vehicle drivers should avoid using exhaust brakes, engine compression or 'jake' brakes



near residential areas and noise-sensitive areas such as hospitals and schools, unless they are necessary for safety reasons.

Due to the relative proximity to homes, drivers are requested to limit the noise created in builtup areas as much as possible with compression braking only used if required for safety reasons.

All heavy vehicle drivers delivering livestock or commodities to or transporting livestock from the Development are to ensure engine or compression brakes are applied so as not to create excessive noise that could lead to community complaints.

## 6.5 Heavy vehicle noise

If drivers are required to wait for their next load they are to wait with engines turned off within the Development site in the designated on-site truck parking area. There is to be no trucks stopping on Getta Getta Road at anytime.

### 6.6 **Load covering**

Uncovered loads represent the greatest risk to loose material on the road and an increase in dust impacts on neighbouring residents along transportation routes.

To prevent these issues all heavy vehicles transporting dusty materials (e.g. grain) must be covered, when loaded.

All trucks arriving at or departing from the Development site when loaded with dusty materials are required to have an effective cover over their load for the duration of the trip.

All care is to be taken to ensure that all loose debris from the vehicle body and wheels is removed prior to leaving the site.

Drivers must ensure that following tipping that the tailgate is locked before leaving the site.

### 6.7 **Vehicle arrival and departure**

Heavy vehicles travelling in close proximity on single lane public roads can be of concern to light vehicle drivers as well as increasing noise through or adjacent to residential areas. To alleviate public concern and increase road safety, heavy vehicles leaving the Development site will be separated by a minimum ten minute interval.

It is difficult to schedule arrivals to the Development Site (except at the commencement of the day) due to the different directions of approach of suppliers and the varying delivery times.



However, when a driver becomes aware, through visual contact or two-way contact between trucks, that they will arrive at approximately the same time then they are to ensure that there is a gap between vehicles (Note that no trucks are allowed to stop along Getta Getta Road).

All heavy vehicles must enter and exit the Development site in a forward direction. Any heavy vehicle that is seen attempting to enter or exit the site in any direction apart from forward will be stopped and given the correct action.

To alleviate public concern and increase road safety heavy vehicles leaving the Development Site should be separated by a minimum five minute interval. All Development-related heavy vehicles must enter and exit the site in a forward direction.

## 6.8 **Breakdowns and incidents**

All breakdowns shall be reported to the TfNSW Incident Reporting Line (131700) and the vehicle protected in accordance with the Truck Emergency Breakdown and Road Safety (ATA, 2013).

To ensure that traffic impacts are minimised in the event of an incident, rapid response from the haulage company is required. In order to ensure rapid response to incidents drivers must contact the TfNSW Incident Reporting Line (131700) and the Feedlot Manager as soon as the stranded vehicle and load is safely secured.

If there is a commodity spill while en-route the driver must:

- If this occurs on Getta Getta Road or the vehicle is owned or contracted by Doolin Farming Pty Ltd, the Feedlot Manager must be immediately informed so that emergency services can be contacted and a cleanup initiated;
- All spills must be adequately cleaned up and waste disposed of in an acceptable and environmental manner;
- Put out warning triangles where it is safe to do so;
- Contact the NSW Police Service.

### 6.9 **Contact numbers**

Contact numbers for relevant stakeholders are provided in Table 4.

Stakeholder	Contact number
TfNSW Transport Management Centre	131700
National Heavy Vehicle Regulator(NHVR)	1300 696 487
Development Management	(0428 889 994) Angus Doolin
Doolin Farming Pty Ltd	(0428 889 994) Angus Doolin
NSW Police Service	000
Gwydir Shire Council	(02) 6724 0000

#### Table 4 – Stakeholders – Contact details



## 7 Inspections, monitoring and auditing

### 7.1 Inspections

#### 7.1.1 Road maintenance

The road pavement in both Getta Getta Road and North Star Road is generally in good condition.

#### 7.1.1 Dust generation

All local and regional roads are sealed.

## 7.2 Monitoring measures

Monitoring is important in ensuring that operational activities are not adversely affecting the external road network or sensitive receivers and that control measures are working effectively.

Monitoring in the form of observations will be undertaken to measure the effectiveness of this OTMP.

## 7.3 **Compliance measures**

To assist in the orderly resolution of complaints Development management will keep a register itemising all reported incidents relating to complaints in regard to heavy vehicle driver conduct external to the Development.

The incident register is to include (where possible):

- (a) Date of the complaint;
- (b) Time of the complaint;
- (c) Name of the complainant (if available);
- (d) How the complaint was received;
- (e) Detailed description of the complaint (including location, driver/heavy vehicle details);
- (f) What / when actions were taken to resolve the issue; and
- (g) The reply to the person / organisation that made the complaint.

An investigation of the location and causes of the complaint will be undertaken and be completed within 7 days of receiving the complaint. It is important to note that in some situations the nature of the complaint could require more than 7 days of investigation, if this occurs the Feedlot Manager will notify the complainant with an update on the progress within 7 days of receiving the complaint.

Immediately following the completion of the investigation, the Development Manager will provide feedback to the complainant that details the investigations undertaken, the result of the investigation and measures implemented to ensure that operations remain compliant. A description of any follow-up investigations and the response provided to the complainant will also be recorded in the Complaints Register upon closure of the issue.

The incident register is to be audited annually by management of the Development and made available, upon request, to an authorised Council officer. The incident register is to be included within the complaints register.

Any acts of gross misconduct will result in an immediate ban from site.



## 8 Incidents and emergency management

## 8.1 **Incident reporting**

All emergency and incident situations associated with the Project including actual or potential (near miss) for injury, or damage to equipment or property will be reported to the Feedlot Manager as soon as practicable after the occurrence.

All emergency and incident situations associated with the Development shall be managed according to the Project's Environmental Complaints, Incidents and Emergencies Procedure contained within Appendix A9 of the OEMP.

All incidents will be investigated, and the appropriate course of action will be taken to address the issues.

In the event that an initial investigation concludes that an exceedance of a criterion was directly attributed to activities associated with the Development the event will be reported to NSW Department of Planning, Infrastructure and Environment within 24 hours of confirming the incident/non-compliance/exceedance.



## 9 Review and improvement

An ongoing document review process ensures that environmental documentation including this OTMP is updated as appropriate for the specific activities that are occurring on-site.

Review of the OTMP may be undertaken as a result of one or more of the following types of trigger mechanisms:

- Submission of an incident report;
- Staff and agency/stakeholder name changes;
- Non-compliance raised as part of the audits, monitoring, inspections; and
- Any modification to the CoA relevant to traffic management.

If it is determined that a review leads to a revision of the OTMP, the Proponent must submit the revisited document within four weeks of the review.

The document is to be signed by individual drivers and an authorised representative of Doolin Farming Pty Ltd the first time they enter Development site at the time when heavy vehicle haulage drivers attend their site induction or shortly thereafter.



## 10 References

Aarts, L & van Schagen, I, 2006, Driving speed and the risk of road crashes: A review. Accident Analysis & Prevention, 38(2), 215-224. doi: 10.1016/j.aap.2005.07.004.



## Appendix A – Legal and other requirements



Legislation/Policy	Relevance
NSW Environmental Planning and Assessment Act 1979 (EP&A Act)	The EP&A Act and Regulation include provisions to ensure that proposals which have the potential to impact the environment are subject to detailed assessment, and provide opportunity for public involvement. The EP&A Act requires compliance with the conditions of the project approval granted for the Project under Part 3A of the EP&A Act
<i>Environmental Planning</i> <i>and Assessment</i> <i>Regulation 2000</i>	This Regulation is made under the Environmental Planning and Assessment Act 1979 and plays an important role in the planning provisions of the Environmental Planning and Assessment Act 1979.
Local Government (General) Regulation 2005	This regulation is made under the Local Government Act 1993 and provides regulatory measures for sewage management facilities.
Protection of the Environment Operations Act 1997 (POEO Act)	The purpose of the POEO Act is to control pollution and set up a licensing regime for certain activities. An environmental protection licence will be required for scheduled activities (i.e. Livestock intensive activities - feedlot).
Protection of the Environment Legislation Amendment Act 2011 (POELA Act)	The POELA Act introduces several changes to improve the way pollution incidents are reported, managed and communicated to the general community. The Act includes a new requirement under Part 5.7A of the POEO Act to prepare, keep, test and implement a pollution incident response management plan.
Protection of the Environment Operations (Clean Air) Regulation 2010.	This regulation is made under the PoEO Act and provides regulatory measures to control emissions from wood heaters, open burning, motor vehicles and fuels and industry.
Protection of the Environment Operations Amendment (Illegal Waste disposal) Act 2013	This act amends the Protection of the Environment Operations Act 1997 to more effectively deal with illegal waste disposal and fraud in the waste sector.
Protection of the Environment Operations (Waste) Regulation 2014	This Regulation is made under the Protection of the Environment Operations Act 1997 and sets out provisions covering waste record keeping, tracking, reporting, transportation and miscellaneous topics.
Road Transport Act 2013	<ul> <li>This act provides for the following <ul> <li>(i) a driver licensing system as part of a uniform national approach to driver licensing (including uniform driver licence classes and licence eligibility criteria),</li> <li>(ii) a vehicle registration system as part of a uniform national approach to vehicle registration and standards,</li> <li>(iii) systems for the improvement of road safety and transport efficiency,</li> <li>(iv) the reduction of costs relating to administering road transport.</li> </ul> </li> </ul>
Waste Avoidance and Resource Recovery Act 2001	This Act promotes waste avoidance and resource recovery to achieve a continual reduction in waste generation. The Act provides for the development of a state-wide Waste Strategy and introduces a scheme to promote extended producer responsibility for the life-cycle of a product.

## Appendix B – Code of Conduct Induction



To all truck drivers entering Development site:

- All heavy vehicle drivers operating out of Development are to observe the posted speed limits, with speed adjusted to suit the road environment and prevailing weather conditions, to comply with the NSW Road Rules & Heavy Vehicle National Law. The vehicle speed must be suitable to the conditions and requirements of the law to ensure the safe movements of the vehicle based on the vehicle configuration.
- The speed limit within the Development site is 15 km/hr with 25 km/hr on internal access roads.
- On entering the Development, trucks must communicate via UHF 10. Conversations must be kept to a minimum. Watch out for Machines working.
- No children are permitted on site without prior permission from the Feedlot Manager.
- Whilst waiting to load or unload, if drivers exit their cabin they must be cautious of other vehicles moving around the site. Drivers must be wearing adequate PPE such as high visibility clothing, long sleeve shirt and long pants, safety boots and a safety helmet.
- If undertaking a U-turn or reversing into the appropriate unloading/loading area, trucks must use all appropriate means of communicating their movements.
- Due to space limitations around loading / unloading areas, trucks are expected to slow down to a speed which will ensure they are able to stop quickly if required. Visibility may be reduced around buildings, take extra care in these areas.
- No driver is to climb into or onto the back of truck bodies or trailers.
- All care is to be taken to ensure that all loose debris from the vehicle body and wheels are removed prior to leaving the site. Drivers must ensure that following tipping that the tailgate is locked before leaving the site. Never drive with the body in a raised position.
- All drivers are to show respect for our neighbours in the local area. Take care around high pedestrian and traffic areas. Please give pedestrians a wide berth, be aware of their safety and other road users.
- All heavy vehicle drivers operating out of the Development are to minimise the use of compression brakes, so as not to create excessive noise that could disturb local residents, where possible. Compression braking within or adjacent to residential areas must only be used if required for safety reasons
- Heavy vehicle drivers are to carefully plan their routes and so that State and regional roads are given priority for route selection.
- All heavy vehicle drivers operating out of the Development site are to be aware of their adopted Fatigue Management Scheme and operate within its requirements. By law, all drivers have a duty to not drive a fatigue-regulated heavy vehicle on a road while impaired by fatigue.
- All drivers should be familiar with their Chain of Responsibility.
- Failure to comply with the above will result in immediate removal from site.



# Appendix C – Code of Conduct Declaration



#### DECLARATION

I, the undersigned, hereby agree to abide by Doolin Farming Pty Ltd Springfield Feedlot's Truck Driver Code of Conduct under section 6 of this Operation Transport Management Plan for the:

- transportation of livestock and solid waste from Springfield Feedlot, North Star to their final destination(s) in a safe manner.
- transportation of livestock and feed commodities to the Springfield Feedlot, North Star from their place of origin(s) in a safe manner.

I have read and understand the requirements outlined in the attached document and will, to the best of my ability, comply and assist with their implementation, requirements and ongoing administration.

The subject document to which this declaration relates is attached as part of the overall document and signing of this declaration confirms that the signee has read and understood the entire document:

#### TRUCK DRIVER

Full Name:

Organisation: \_\_\_\_\_

Signature:

Date:

#### **DOOLIN FARMING PTY LTD**

Company Witness:

Date: